

# Galaxy

SCIENCE FICTION

MARCH 1957

35¢

AN EYE  
FOR A WHAT?

By  
**DAMON  
KNIGHT**

•  
**WILLY LEY**  
EXPOSES  
THE  
GREAT  
PYRAMID  
"MYSTERY"

•  
THE  
IGNOBLE  
SAVAGES

By  
**EVELYN E.  
SMITH**

•  
AND  
OTHER STORIES





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# Galaxy

## SCIENCE FICTION

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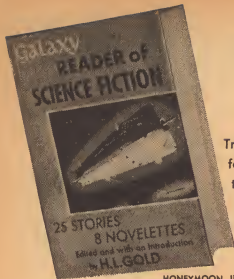
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## PERSONAL ACCOUNT

**I**T DOESN'T seem very long ago that detective stories became legitimate when Roosevelt declared in an interview that he read them for relaxation. Those of us who were then reading and writing science fiction were envious. We hoped something similar would happen to our favorite form of literature, but we didn't really expect it.

There was Aldous Huxley's *Brave New World*, of course, which appeared around that time and was a huge hit; we were able to explain to the uninitiated that we read and wrote stories like that. But I remember being backed into describing the plot of a story I was working on then: "Well, there are giant brains sealed in glassite capsules in the polar ice. They belong to extra-terrestrials, who have no bodies, just brains, and they know everything that happened on Earth because they're immortal—" The experience inhibited me so badly that I never wrote the story.

A lot has happened to science fiction since that wild era, when no author could get up from his

typewriter without having knocked off at least some part of the Solar System's population.

Craftsmanship *had* to enter the field. There are only so many basic categories; when they have been done over and over, especially with primal motivations and masses of people instead of individuals and their infinitely varied problems and conflicts, the result must be ultimate stasis.

Those writers who could not learn to construct a real story had to drop out, for their stuff inevitably was too similar to things that had been done before, by others and even by themselves. Meeting them now, I find it sad-denying to hear their puzzled or hostile remarks about science fiction.

Many of them understand it less than if they had never written any.

(The same is true of the elderly fans who can't realize that the "sense of wonder" they bay for is gone from them, not from science fiction.)

I wonder if anyone else then had an experience like mine:

When I was about 18, I kept bringing stories to a wonderful old editor named Dr. T. O'Connor Sloane, and he, instead of talking about them, always managed to get off onto Icelandic literature, the fascination of mathematics (a specialty of *his*), and other subjects that may not have been evasions, but were just as good.

One story I gave him, however, got him dangerously excited for a man of 82. It was about mining on Venus and I'd manfully exposed the dirty rats who savagely exploited native labor and prisoners exiled to that miserably hot, rainy planet. Dr. Sloane exclaimed it was too good for his pulp magazine and brought both me and the manuscript up to the *Delineator*, which was owned by the same company. The story came back to me with a printed rejection slip. Not long after, the *Delineator* folded. I immediately saw the connection, but I was more concerned with selling the story. Dr. Sloane, though, went on maintaining that it was too good and steadfastly refused to buy it.

If that experience is typical, it explains a good deal about the dreadfulness of that paleolithic science fiction. (I don't know how much better my own story was, because it somehow got lost.)

Were I an envious man, which I am, I would resent the break

that authors have today in rates and markets. There were very few science fiction magazines, their rates ranging from microscopic fractions of a cent payable upon lawsuit to just enough to starve on. Hardly any book publishers brought out science fiction books. No anthologies, no pocketbooks, no TV, radio or movie resale.

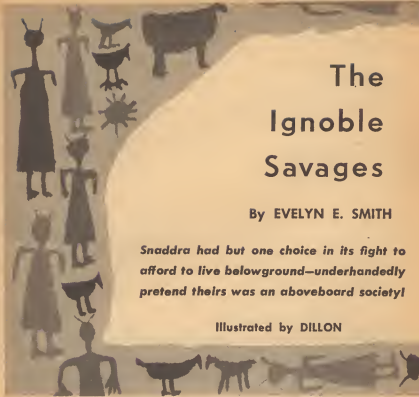
Good God, no wonder a depression was going on!

No doubt there is a lesson to be derived from this. Writing science fiction in the early days was easier, but the pay was poor. Writing for *GALAXY* is very much harder, but the pay is highly rewarding both in amount and prestige.

I guess it balances out. Either way, writing — especially the writing of science fiction — is not a job for the lazy. A good story gives the illusion of having been produced effortlessly. Nothing involves more effort than achieving that illusion, however.

**A**LL the foregoing is excerpted from my introduction to the *First Galaxy Reader*, written over five years ago. (It's still available from us at \$2.75 postpaid — a giant book of 600 pages.) As I said in concluding the introduction: I just thought you'd be interested in one practitioner's personal history in science fiction.

— H. L. GOLD



# The Ignoble Savages

By EVELYN E. SMITH

*Snaddra had but one choice in its fight to afford to live belowground—underhandedly pretend theirs was an aboveboard society!*

Illustrated by DILLON

“GO AWAY from me, Skkiru,” Larhgan said, pushing his hand off her arm. “A beggar does not associate with the high priestess of Snaddra.”

“But the Earthmen aren’t due for another fifteen minutes,” Skkiru protested.

“Of what importance are fifteen minutes compared to eternity!” she exclaimed. Her lovely eyes fuzzed softly with emotion. “You don’t seem to realize, Skkiru, that this isn’t just a matter of minutes or hours. It’s forever.”

“Forever!” He looked at her incredulously. “You mean we’re go-





ing to keep this up as a permanent thing? You're joking!"

Bbulas groaned, but Skkiru didn't care about that. The sad, sweet way Larhgan shook her beautiful head disturbed him much more, and when she said, "No, Skkiru, I am not joking," a tiny pang of doubt and apprehen-

sion began to quiver in his second smallest left toe.

"This is, in effect, good-by," she continued. "We shall see each other again, of course, but only from a distance. On feast days, perhaps you may be permitted to kiss the hem of my robe . . . but that will be all."

Skkiru turned to the third person present in the council chamber. "Bbulas, this is your fault! It was all your idea!"

There was regret on the Dilettante's thin face—an obviously insincere regret, the younger man knew, since he was well aware how Bbulas had always felt about the girl.

"I am sorry, Skkiru," Bbulas intoned. "I had fancied you understood. This is not a game we are playing, but a new way of life we are adopting. A necessary way of life, if we of Snaddra are to keep on living at all."

"It's not that I don't love you, Skkiru," Larhgan put in gently, "but the welfare of our planet comes first."

SHE had been seeing too many of the Terrestrial fictapes from the library, Skkiru thought resentfully. There was too damn much Terran influence on this planet. And this new project was the last straw.

No longer able to control his rage and grief, he turned a triple somersault in the air with rage. "Then why was I made a beggar and she the high priestess? You arranged that purposely, Bbulas. You —"

"Now, Skkiru," Bbulas said wearily, for they had been through all this before, "you know that all the ranks and positions were dis-

tributed by impartial lot, except for mine, and, of course, such jobs as could carry over from the civilized into the primitive."

Bbulas breathed on the spectacles he was wearing, as contact lenses were not considered backward enough for the kind of planet Snaddra was now supposed to be, and attempted to wipe them dry on his robe. However, the thick, jewel-studded embroidery got in his way and so he was forced to lift the robe and wipe all three of the lenses on the smooth, soft, spun metal of his top underskirt.

"After all," he went on speaking as he wiped, "I have to be high priest, since I organized this culture and am the only one here qualified to administer it. And, as the president himself concurred in these arrangements, I hardly think you—a mere private citizen—have the right to question them."

"Just because you went to school in another solar system," Skkiru said, whirling with anger, "you think you're so smart!"

"I won't deny that I do have educational and cultural advantages which were, unfortunately, not available to the general populace of this planet. However, even under the old system, I was always glad to utilize my superior attainments as Official Dilettante for the good of all and now —"

"Sure, glad to have a chance to rig this whole setup so you could break up things between Larhgan and me. You've had your eye on her for some time."

Skkiru coiled his antennae at Bbulas, hoping the insult would provoke him into an unbecoming whirl, but the Dilettante remained calm. One of the chief outward signs of Terran-type training was self-control and Bbulas had been thoroughly terrorized.

*I hate Terrestrials*, Skkiru said to himself. *I hate Terra*. The quiver of anxiety had risen up his leg and was coiling and uncoiling in his stomach. He hoped it wouldn't reach his antennae—if he were to break down and psonk in front of Larhgan, it would be the final humiliation.

"Skkiru!" the girl exclaimed, rotating gently, for she, like her fiancé—her erstwhile fiancé, that was, for the new regime had caused all such ties to be severed—and every other literate person on the planet, had received her education at the local university. Although sound, the school was admittedly provincial in outlook and very poor in the emotional department. "One would almost think that the lots had some sort of divine intelligence behind them, because you certainly are behaving in a beggarly manner!"

"And I have already explained

to you, Skkiru," Bbulas said, with a patience much more infuriating than the girl's anger, "that I had no idea of who was to become my high priestess. The lots chose Larhgan. It is, as the Earthmen say, kismet."

HE ADJUSTED the fall of his glittering robe before the great polished four-dimensional reflector that formed one wall of the chamber.

*Kismet*, Skkiru muttered to himself, *and a little sleight of hand*. But he didn't dare offer this conclusion aloud; the libel laws of Snaddra were very severe. So he had to fall back on a weak, "And I suppose it is kismet that makes us all have to go live out on the ground during the day, like—like savages."

"It is necessary," Bbulas replied without turning.

"Pooh," Skkiru said. "Pooh, *pooh*, POOH!"

Larhgan's dainty earflaps closed. "Skkiru! Such language!"

"As you said," Bbulas murmured, contemptuously coiling one antenna at Skkiru, "the lots chose well and if you touch me, Skkiru, we shall have another drawing for beggar and you will be made a metal-worker."

"But I can't work metal!"

"Then that will make it much worse for you than for the other outcasts," Bbulas said smugly,

"because you will be a pariah without a trade."

"Speaking of pariahs, that reminds me, Skkiru, before I forget, I'd better give you back your grimpatch—" Larhgan handed the glittering bauble to him—"and you give me mine. Since we can't be betrothed any longer, you might want to give yours to some nice beggar girl."

"I don't want to give my grimpatch to some nice beggar girl!" Skkiru yelled, twirling madly in the air.

"As for me," she sighed, standing soulfully on her head, "I do not think I shall ever marry. I shall make the religious life my career. Are there going to be any saints in your mythos, Bbulas?"

"Even if there will be," Bbulas said, "you certainly won't qualify if you keep putting yourself into a position which not only represents a trait wholly out of keeping with the new culture, but is most unseemly with the high priestess's robes."

Larhgan ignored his unfeeling observations. "I shall set myself apart from mundane affairs," she vowed, "and I shall pretend to be happy, even though my heart will be breaking."

It was only at that moment that Skkiru realized just how outrageous the whole thing really was. There must be another solu-

tion to the planet's problem. "Listen—" he began, but just then excited noises filtered down from overhead. It was too late.

"Earth ship in view!" a squeaky voice called through the intercom. "Everybody topside and don't forget your shoes."

Except the beggar. Beggars went barefoot. Beggars suffered. Bbulas had made him beggar purposely, and the lots were a lot of slibwash.

"Hurry up, Skkiru."

**B**BULAS slid the ornate head-dress over his antennae, which, already gilded and jeweled, at once seemed to become a part of it. He looked pretty damn silly, Skkiru thought, at the same time conscious of his own appearance—which was, although picturesque enough to delight romantic Terrestrial hearts, sufficiently wretched to charm the most hardened sadist.

"Hurry up, Skkiru," Bbulas said. "They mustn't suspect the existence of the city underground or we're finished before we've started."

"For my part, I wish we'd never started," Skkiru grumbled. "What was wrong with our old culture, anyway?"

That was intended as a rhetorical question, but Bbulas answered it anyway. He always answered questions; it had never seemed to

penetrate his mind that school-days were long since over.

"I've told you a thousand times that our old culture was too much like the Terrans' own to be of interest to them," he said, with affected weariness. "After all, most civilized societies are basically similar; it is only primitive societies that differ sharply, one from the other—and we have to be different to attract Earthmen. They're pretty choosy. You've got to give them what they want, and that's what they want. Now take up your post on the edge of the field, try to look hungry, and remember this isn't for you or for me, but for Snaddra."

"For Snaddra," Larhgan said, placing her hand over her anterior heart in a gesture which, though devout on Earth—or so the fictapes seemed to indicate—was obscene on Snaddra, owing to the fact that certain essential organs were located in different areas in the Snaddrath than in the corresponding Terrestrial life-form. Already the Terrestrial influence was corrupting her, Skkiru thought mournfully. She had been such a nice girl, too.

"We may never meet on equal terms again, Skkiru," she told him, with a long, soulful glance that made his hearts sink down to his quivering toes, "but I promise you there will never be anyone else for me—and I hope that

knowledge will inspire you to complete cooperation with Bbulas."

"If that doesn't," Bbulas said, "I have other methods of inspiration."

"All right," Skkiru answered sulkily. "I'll go to the edge of the field, and I'll speak broken Inter-galactic, and I'll forsake my normal habits and customs, and I'll even beg. But I don't have to like doing it, and I don't intend to like doing it."

All three of Larhgan's eyes fuzzed with emotion. "I'm proud of you, Skkiru," she said brokenly.

Bbulas sniffed. The three of them floated up to ground level in a triple silence.

"**A**LMS, for the love of Ipsnadd," Skkiru chanted, as the two Terrans descended from the ship and plowed their way through the mud to meet a procession of young Snaddrath dressed in elaborate ceremonial costumes, and singing a popular ballad—to which less ribald, as well as less inspiring, words than the originals had been fitted by Bbulas, just in case, by some extremely remote chance, the Terrans had acquired a smattering of Snadd somewhere. Since neither party was accustomed to navigating mud, their progress was almost imperceptible.

"Alms, for the love of Ipsnadd,"

chanted Skkiru the beggar. His teeth chattered as he spoke, for the rags he wore had been custom-weatherbeaten for him by the planet's best tailor—now a pariah, of course, because Snadd tailors were, naturally, metal-workers—and the wind and the rain were joyously making their way through the demolished wires. Never before had Skkiru been on the surface of the planet, except to pass over, and he had actually touched it only when taking off and landing. The Snaddrath had no means of land transport, having previously found it unnecessary—but now both air-cars and self-levitation were on the prohibited list as being insufficiently primitive.

The outside was no place for a civilized human being, particularly in the wet season or—more properly speaking on Snaddra—the wetter season. Skkiru's feet were soaked with mud; not that the light sandals worn by the members of the procession appeared to be doing them much good, either. It gave him a kind of melancholy pleasure to see that the privileged ones were likewise trying to repress shivers. Though their costumes were rich, they were also scanty, particularly in the case of the females, for Earthmen had been reported by tape and tale to be humanoid.

As the mud clutched his toes,

Skkiru remembered an idea he had once gotten from an old sporting fictape of Terrestrial origin and had always planned to experiment with, but had never gotten around to—the weather had always been so weathery, there were so many other more comfortable sports, Larhgan had wanted him to spend more of his leisure hours with her, and so on. However, he still had the equipment, which he'd salvaged from a wrecked air-car, in his apartment—and it was the matter of a moment to run down, while Bbulas was looking the other way, and get it.

Bbulas couldn't really object, Skkiru stilled the nagging quiver in his toe, because what could be more primitive than any form of land transport? And even though it took time to get the things, they worked so well that, in spite of the procession's head start, he was at the Earth ship long before the official greeters had reached it.

THE newcomers were indeed humanoid, he saw. Only the peculiarly pasty color of their skins and their embarrassing lack of antennae distinguished them visibly from the Snaddrath. They were dressed much as the Snaddrath had been before they had adopted primitive garb.

In fact, the Terrestrials were quite decent-looking life-forms,

entirely different from the foppish monsters Skkiru had somehow expected to represent the cultural ruling race. Of course, he had frequently seen pictures of them, but everyone knew how easily those could be retouched. Why, it was the Terrestrials themselves, he had always understood, who had invented the art of retouching—thus proving beyond a doubt that they had something to hide.

"Look, Raoul," the older of the two Earthmen said in Terran—which the Snaddrath were not, according to the master plan, supposed to understand, but which most of them did, for it was the fashionable third language on most of the outer planets. "A beggar. Haven't seen one since some other chaps and I were doing a spot of field work on that little planet in the Arcturus system—what was its name? Glotch, that's it. Very short study, it turned out to be. Couldn't get more than a pamphlet out of it, as we were unable to stay long enough to amass enough material for a really definitive work. The natives tried to eat us, so we had to leave in somewhat of a hurry."

"Oh, they were cannibals?" the other Earthman asked, so respectfully that it was easy to deduce he was the subordinate of the two. "How horrible!"

"No, not at all," the other assured him. "They weren't human

— another species entirely — so you could hardly call it cannibalism. In fact, it was quite all right from the ethical standpoint, but abstract moral considerations seemed less important to us than self-preservation just then. Decided that, in this case, it would be best to let the missionaries get first crack at them. Soften them up, you know."

"And the missionaries — did they soften them up, Cyril?"

"They softened up the missionaries, I believe." Cyril laughed. "Ah, well, it's all in the day's work."

"I hope these creatures are not man-eaters," Raoul commented, with a polite smile at Cyril and an apprehensive glance at the oncoming procession — *creatures indeed!* Skirru thought, with a mental sniff. "We have come such a long and expensive way to study them that it would be indeed a pity if we also were forced to depart in haste. Especially since this is my first field trip and I would like to make good at it."

"Oh, you will, my boy, you will." Cyril clapped the younger man on the shoulder. "I have every confidence in your ability."

Either he was stupid, Skkiru thought, or he was lying, in spite of Bbulas' asseverations that untruth was unknown to Terrestrials—which had always seemed highly improbable, anyway. How

could any intelligent life-form possibly stick to the truth all the time? It wasn't human; it wasn't even humanoid; it wasn't even polite.

"The natives certainly appear to be human enough," Raoul added, with an appreciative glance at the females, who had been selected for the processional honor with a view to reported Terrestrial tastes. "Some slight differences, of course—but, if two eyes are beautiful, three eyes can be fifty per cent lovelier, and chartreuse has always been my favorite color."

*If they stand out here in the cold much longer, they are going to turn bright yellow.* His own skin, Skkiru knew, had faded from its normal healthy emerald to a sickly celadon.

CYRIL frowned and his companion's smile vanished, as if the contortion of his superior's face had activated a circuit somewhere. *Maybe the little one's a robot!* However, it couldn't be—a robot would be better constructed and less interested in females than Raoul.

"Remember," Cyril said sternly, "we must not establish undue rapport with the native females. It tends to detract from true objectivity."

"Yes, Cyril," Raoul said meekly.

Cyril assumed a more cheerful

aspect. "I should like to give this chap something for old times' sake. What do you suppose is the medium of exchange here?"

Money, Skirru said to himself, but he didn't dare contribute this piece of information, helpful though it would be.

"How should I know?" Raoul shrugged.

"Empathize. Get in there, old chap, and start batting."

"Why not give him a bar of chocolate, then?" Raoul suggested grumpily. "The language of the stomach, like the language of love, is said to be a universal one."

"Splendid idea! I always knew you had it in you, Raoul!"

Skkiru accepted the candy with suitable—and entirely genuine—murmurs of gratitude. Chocolate was found only in the most expensive of the planet's delicacy shops—and now neither delicacy shops nor chocolate were to be found, so, if Bbulas thought he was going to save the gift to contribute it later to the Treasury, the "high priest" was off his rocker.

To make sure there would be no subsequent dispute about possession, Skkiru ate the candy then and there. Chocolate increased the body's resistance to weather, and never before had he had to endure so much weather all at once.



On Earth, he had heard, where people lived exposed to weather, they often sickened of it and passed on — which helped to solve the problem of birth control on so vulgarly fecund a planet. Snaddra, alas, needed no such measures, for its population — like its natural resources — was dwindling rapidly. Still, Skkiru thought, as he moodily munched on the chocolate, it would have been better to flicker out on their own than to descend to a subterfuge like this for nothing more than survival.

**B**EING a beggar, Skkiru discovered, did give him certain small, momentary advantages over those who had been allotted higher ranks. For one thing, it was quite in character for him to tread curiously upon the strangers' heels all the way to the temple — a ramshackle affair, but then it had been run up in only three days — where the official reception was to be held. The principal difficulty was that, because of his equipment, he had a little trouble keeping himself from overshooting the strangers. And though Bbulas might frown menacingly at him — and not only for his forwardness — that was in character on both sides, too.

Nonetheless, Skkiru could not reconcile himself to his beggarhood, no matter how much he

tried to comfort himself by thinking at least he wasn't a pariah like the unfortunate metal-workers who had to stand segregated from the rest by a chain of their own devising — a poetic thought, that was, but well in keeping with his beggarhood. Beggars were often poets, he believed, and poets almost always beggars. Since metal-working was the chief industry of Snaddra, this had provided the planet automatically with a large lowest caste. Bbulas had taken the easy way out.

Skkiru swallowed the last of the chocolate and regarded the "high priest" with a simple-minded mendicant's grin. However, there were volcanic passions within him that surged up from his toes when, as the wind and rain whipped through his scanty coverings, he remembered the snug underskirts Bbulas was wearing beneath his warm gown. They were metal, but they were solid. All the garments visible or potentially visible were of woven metal, because, although there was cloth on the planet, it was not politic for the Earthmen to discover how heavily the Snaddrath depended upon imports.

As the Earthmen reached the temple, Larhgan now appeared to join Bbulas at the head of the long flight of stairs that led to it. Although Skkiru had seen her in her priestly apparel before, it had

not made the emotional impression upon him then that it did now, when, standing there, clad in beauty, dignity and warm clothes, she bade the newcomers welcome in several thousand words not too well chosen for her by Bbulas—who fancied himself a speech-writer as well as a speech-maker, for there was no end to the man's conceit.

The difference between her magnificent garments and his own miserable rags had their full impact upon Skirru at this moment. He saw the gulf that had been dug between them and, for the first time in his short life, he felt the tormenting pangs of caste distinction. She looked so lovely and so remote.

"... and so you are most welcome to Snaddra, men of Earth," she was saying in her melodious voice. "Our resources may be small but our hearts are large, and what little we have, we offer with humility and with love. We hope that you will enjoy as long and as happy a stay here as you did on Nemeth..."

Cyril looked at Raoul, who, however, seemed too absorbed in contemplating Larhgan's apparently universal charms to pay much attention to the expression on his companion's face.

"... and that you will carry our affection back to all the peoples of the Galaxy."

SHE had finished. And now Cyril cleared his throat. "Dear friends, we were honored by your gracious invitation to visit this fair planet, and we are honored now by the cordial reception you have given to us."

The crowd yoomped politely. After a slight start, Cyril went on, apparently deciding that applause was all that had been intended.

"We feel quite sure that we are going to derive both pleasure and profit from our stay here, and we promise to make our intensive analysis of your culture as painless as possible. We wish only to study your society, not to tamper with it in any way."

*Ha, ha, ha*, Skkiru said to himself.  
*Ha, ha, ha!*

"But why is it," Raoul whispered in Terran as he glanced around out of the corners of his eyes, "that only the beggar wears mudshoes?"

"Shhh," Cyril hissed back. "We'll find out later, when we've established rapport. Don't be so impatient!"

Bbulas gave a sickly smile. Skkiru could almost find it in his hearts to feel sorry for the man.

"We have prepared our best hut for you, noble sirs," Bbulas said with great self-control, "and, by happy chance, this very evening a small but unusually interesting ceremony will be held outside the temple. We hope you will

be able to attend. It is to be a rain dance."

"Rain dance!" Raoul pulled his macintosh together more tightly at the throat. "But why do you want rain? My faith, not only does it rain now, but the planet seems to be a veritable sea of mud. Not, of course," he added hurriedly as Cyril's reproachful eye caught his, "that it is not attractive mud. Finest mud I have ever seen. Such texture, such color, such aroma!"

Cyril nodded three times and gave an appreciative sniff.

"But," Raoul went on, "one can have too much of even such a good thing as mud . . ."

The smile did not leave Bbulas' smooth face. "Yes, of course, honorable Terrestrials. That is why we are holding this ceremony. It is not a dance to bring on rain. It is a dance to *stop* rain."

He was pretty quick on the uptake, Skkiru had to concede. However, that was not enough. The man had no genuine organizational ability. In the time he'd had in which to plan and carry out a scheme for the improvement of Snaddra, surely he could have done better than this high-school theocracy. For one thing, he could have apportioned the various roles so that each person would be making a definite contribution to the society, instead of creating some positions plums,

like the priesthood, and others prunes, like the beggarship.

What kind of life was that for an active, ambitious young man, standing around begging? And, moreover, from whom was Skkiru going to beg? Only the Earthmen, for the Snaddrath, no matter how much they threw themselves into the spirit of their roles, could not be so carried away that they would give handouts to a young man whom they had been accustomed to see basking in the bosom of luxury.

UNFORTUNATELY, the fees that he'd received in the past had not enabled him both to live well and to save, and now that his fortunes had been so drastically reduced, he seemed in a fair way of starving to death. It gave him a gentle, moody pleasure to envisage his own funeral, although, at the same time, he realized that Bbulas would probably have to arrange some sort of pension for him; he could not expect Skkiru's patriotism to extend to abnormal limits. A man might be willing to die for his planet in many ways — but wantonly starving to death as the result of a primitive affectation was hardly one of them.

All the same, Skkiru reflected as he watched the visitors being led off to the native hut prepared for them, how ignominious it would be for one of the brightest

young architects on the planet to have to subsist miserably on the dole just because the world had gone aboveground. The capital had risen to the surface and the other cities would soon follow suit. Meanwhile, a careful system of tabus had been designed to keep the Earthmen from discovering the existence of those other cities.

He could, of course, emigrate to another part of the planet, to one of them, and stave off his doom for a while—but that would not be playing the game. Besides, in such a case, he wouldn't be able to see Larhgan.

As if all this weren't bad enough, he had been done an injury which struck directly at his professional pride. He hadn't even been allowed to help in planning the huts. Bbulas and some workmen had done all that themselves with the aid of some antique blueprints that had been put out centuries before by a Terrestrial magazine and had been acquired from a rare tape-and-book dealer on Gambrell, for, Skkiru thought, far too high a price. He could have designed them himself just as badly and much more cheaply.

It wasn't that Skkiru didn't understand well enough that Snaddra had been forced into making such a drastic change in its way of life. What resources it

once possessed had been depleted and—aside from minerals—they had never been very extensive to begin with. All life-forms on the planet were on the point of extinction, save fish and rice—the only vegetable that would grow on Snaddra, and originally a Terran import at that. So food and fiber had to be brought from the other planets, at fabulous expense, for Snaddra was not on any of the direct trade routes and was too unattractive to lure the tourist business.

Something definitely had to be done, if it were not to decay altogether. And that was where the Planetary Dilettante came in.

THE traditional office of Planetary Dilettante was a civil-service job, awarded by competitive examination whenever it fell vacant to the person who scored highest in intelligence, character and general gloonatz. However, the tests were inadequate when it came to measuring sense of proportion, adaptiveness and charm—and there, Skkiru felt, was where the essential flaw lay. After all, no really effective test would have let a person like Bbulas come out on top.

The winner was sent to Gambrell, the nearest planet with a Terran League University, to be given a thorough Terran-type education. No individual on

Snaddra could afford such schooling, no matter how great his personal fortune, because the transportation costs were so immense that only a government could afford them. That was the reason why only one person in each generation could be chosen to go abroad at the planet's expense and acquire enough finish to cover the rest of the population.

The Dilettante's official function had always been, in theory, to serve the planet when an emergency came—and this, old Luccar, the former President, had decided, when he and the Parliament had awakened to the fact that Snaddra was falling into ruin, was an emergency. So he had, after considerable soul-searching, called upon Bbulas to plan a method of saving Snaddra—and Bbulas, happy to be in the limelight at last, had come up with this program.

It was not one Skkiru himself would have chosen. It was not one, he felt, that any reasonable person would have chosen. Nevertheless, the Bbulas Plan had been adopted by a majority vote of the Snaddrath, largely because no one had come up with a feasible alternative and, as a patriotic citizen, Skkiru would abide by it. He would accept the status of beggar; it was his duty to do so. Moreover, as in the case of the planet, there was no choice.

But all was not necessarily lost, he told himself. Had he not, in his anthropological viewings—though Bbulas might have been the only one privileged to go on ethnological field trips to other planets, he was not the only one who could use a library—seen accounts of societies where beggarhood could be a rewarding and even responsible station in life? There was no reason why, within the framework of the primitive society Bbulas had created to allure Terran anthropologists, Skkiru should not make something of himself and show that a beggar was worthy of the high priestess's hand—which would be entirely in the Terran primitive tradition of romance.

"Skkiru!" Bbulas was screaming, as he spun, now that the Terrans were out of ear- and eye-shot. "Skkiru, you idiot, listen to me! What are those ridiculous things you are wearing on your silly feet?"

Skkiru protruded all of his eyes in innocent surprise. "Just some old pontoons I took from a wrecked air-car once. I have a habit of collecting junk and I thought—"

Bbulas twirled madly in the air. "You are not supposed to think. Leave all the thinking to me!"

"Yes, Bbulas," Skkiru said meekly.

**H**E WOULD have put up an argument, but he had bigger plans in mind and he didn't want them impeded in any way.

"But they seem like an excellent idea," Luccar suggested. "Primitive and yet convenient."

Bbulas slowed down and gulped. After all, in spite of the fact that he was now only chief yam-stealer — being prevented from practicing his profession simply because there were no yams on the planet and no one was quite certain what they were — Luccar had once been elected President by a large popular majority. And a large popular majority is decidedly a force to be reckoned with anywhere in the Galaxy.

"Any deviations arouse comment," Bbulas explained tightly.

"But if we all —"

"There would not be enough pontoons to go around, even if we stripped all the air-cars."

"I see," Luccar said thoughtfully. "We couldn't make—?"

"No time!" Bbulas snapped. "All right, Skkiru—get those things off your feet!"

"Will do," Skkiru agreed. It would be decidedly unwise to put up an argument now. So he'd get his feet muddy; it was all part of the higher good.

Later, as soon as the rain-dance rehearsals were under way, he slipped away. No part had been

assigned to him anyhow, except that of onlooker, and he thought he could manage that without practice. He went down to the library, where, since all the attendants were aboveground, he could browse in the stacks to his heart's content, without having to fill out numerous forms and be shoved about like a plagiarist or something.

If the Earthmen were interested in really primitive institutions, he thought, they should have a look at the city library. The filing system was really medieval. However, the library would, of course, be tabu for them, along with the rest of the city, which was not supposed to exist.

As far as the Terrans were to know, the group of lumpy stone huts (they should, properly speaking, have been wood, but wood was too rare and expensive) was the capital of Snaddra. It would be the capital of Snaddra for the Snaddrath, too, except during the hours of rest, when they would be permitted to retire unobtrusively to their cozy well-drained quarters beneath the mud. Life was going to be hard from now on — unless the Bbulas Plan moved faster than Bbulas himself had anticipated. And that would never happen without implementation from without. From without Bbulas, that was.

Skkiru got to work on the tapes and soon decided upon his area of operations. Bbulas had concentrated so much effort on the ethos of the planet that he had devoted insufficient detail to the mythos. That, therefore, was the field in which Skkiru felt he must concentrate. And concentrate he did.

THE rain dance, which had been elaborately staged by the planet's finest choreographers, came to a smashing climax, after which there was a handsome display of fireworks.

"But it is still raining," Raoul protested.

"Did you expect the rain to stop?" Bbulas asked, his eyes bulging with involuntary surprise. "I mean—" he said, hastily retracting them—"well, it doesn't always stop right away. The gods may not have been feeling sufficiently propitious."

"Thought you had only one god, old boy," Cyril observed, after giving his associate a searching glance. "Chap by the name of Whipsnade or some such."

"Ipsnadd. He is our chief deity. But we have a whole pantheon. Major gods and minor gods. Heroes and demigods and nature spirits—"

"And do not forget the prophets," Larhgan put in helpfully. As former Chief Beauty of the planet

(an elective civil-service office), she was not accustomed to being left out of things. "We have many prophets. And saints. I myself am studying to be a—"

Bbulas glared at her. Though her antennae quivered sulkily, she stopped and said no more—for the moment, anyway.

"Sounds like quite a complex civilization," Cyril commented.

"No, no!" Bbulas protested in alarm. "We are a simple primitive people without technological pretensions."

"You don't need any," Cyril assured him. "Not when you have fireworks that function in the rain."

Inside himself, Skkiru guffawed.

"We are a simple people," Bbulas repeated helplessly. "A very simple and very primitive people."

"Somehow," Raoul said, "I feel you may have a quality that civilization may have lost." The light in his eyes was recognizable to any even remotely humanoid species as a mystic glow.

But Cyril seemed well in command of the situation. "Come now, Raoul," he laughed, clapping his young colleague on the shoulder, "don't fall into the Rousseau trap—noble savage and all that sort of rot!"

"But that beggar!" Raoul insisted. "Trite, certainly, but in-



credible nonetheless! Before, one only read of such things —”

A glazed look came into two of Bbulas' eyes, while the third closed despairingly. “What beggar? What beggar? Tell me—I must know . . . as if I didn't really,” he muttered in Snaddrath.

“The only beggar we've seen on this planet so far. That one.”

WITH a wave of his hand, Cyril indicated the modest form of Skkiru, attempting to conceal himself behind Luccar's portly person.

“I realize it was only illusion, but, as my associate says, a re-

markably good one. And,” Cyril added, “an even more remarkable example of cultural diffusion.”

“What do you mean? Please, gracious and lovable Terrans, deign to tell me what you mean. What did that insufferable beggar do?”

In spite of himself, Skkiru's knees flickered. *Fool*, he told himself, *you knew it was bound to come out sooner or later. Take courage in your own convictions; be convinced by your own courage. All he really can do is yell.*

“He did the Indian rope trick for us,” Raoul explained. “And very well, too. Very well indeed.”





"The—Indian rope trick!" Bbulas spluttered. "Why, the—" And then he recollected his religious vocation, as well as his supposed ignorance. "Would you be so kind as to tell me what the Indian rope trick is, good sirs?"

"Well, he did it with a chain, actually."

"We have no ropes on this planet," Larhgan contributed. "We are backward."

"And a small boy went up and disappeared," Raoul finished.

Suddenly forgetting the stiff-upper-lip training for which the planet had gone to such great expense, Bbulas spun around and

around in a fit of bad temper, to Skkiru's great glee. Fortunately, the Dilettante retained enough self-control to keep his feet on the ground — perhaps remembering that to fail to do so would compound Skkiru's crime.

"Dervishism!" Raoul exclaimed, his eyes incandescent with interest. He pulled out his notebook. After biting his lip thoughtfully, Cyril did the same.

"Just like Skkiru!" Bbulas gasped as he spun slowly to a stop. "He is a disruptive cultural mechanism. Leading children astray!"

"But not at all," Raoul pointed

out politely. "The boy came back unharmed and in the best of spirits."

"So far as we could see," Cyril amended. "Of course there may have been psychic damage."

"Which boy was it?" Bbulas demanded.

CYRIL pointed to the urchin in question—a rather well-known juvenile delinquent, though the Terrestrials, of course, couldn't know that.

"He is a member of my own clan," Bbulas said. "He will be thrashed soundly."

"But why punish him?" Raoul asked. "What harm has he done?"

"Shhh," Cyril warned him. "You may be touching on a tabu. What's the matter with you, anyway? One would think you had forgotten every lesson you ever learned."

"Oh, I am truly sorry!" Raoul's face became a pleasing shade of pink, which made him look much more human. Maybe it was the wrong color, but at least it was a color. "Please to accept my apologies, reverend sir."

"It's quite all right." Bbulas reverted to graciousness. "The boy should not have associated with a beggar—especially that one. If he did not hold his post by time-hallowed tradition, we would—dispose of him. He has always been a trouble-maker."

"But I do not understand," Raoul persisted. Skkiru could not understand why Cyril did not stop him again. "The beggar did the trick very effectively. I know it was all illusion, but I should like to know just how he created such an illusion, and, moreover, how the Indian rope trick got all the way to—"

"It was all done by magic," Bbulas said firmly. "Magic outside the temple is not encouraged, because it is black magic, and so it is wrong. The magic of the priests is white magic, and so it is right. Put that down in your little book."

Raoul obediently wrote it down. "Still, I should like to know—"

"Let us speak of pleasanter things," Bbulas interrupted again. "Tomorrow night, we are holding a potlatch and we should be honored to have the pleasure of your company."

"Delighted," Raoul bowed.

"I was wrong," Cyril said. "This is not a remarkable example of cultural diffusion. It is a remarkable example of a diffuse culture."

"BUT I cannot understand," Raoul said to Cyril later, in the imagined privacy of their hut. "Why are you suspicious of this charming, friendly people, so like the natives that the textbooks lead one to expect?"

*Naturally*, Skkiru—having made

his way in through a secret passage known only to the entire population of the city and explicitly designed for espionage, and was spying outside the door — thought, *we are textbook natives. Not only because we were patterned on literary prototypes, but because Bbulas never really left school—in spirit, anyway. He is the perpetual undergraduate and his whole scheme is nothing more than a grandiose Class Night.*

"Precisely what I've been thinking," Cyril said. "So like the textbooks—all the textbooks put together."

"What do you mean? Surely it is possible for analogous cultural features to develop independently in different cultures?"

"Oh, it's possible, all right. Probability—particularly when it comes to such a great number of features packed into one small culture—is another matter entirely."

"I cannot understand you," Raoul objected. "What do you want of these poor natives? To me, it seems everything has been of the most idyllic. Rapport was established almost immediately."

"A little too immediately, perhaps, don't you think? You haven't had much experience, Raoul, so you might not be aware it usually isn't as easy as this."

Cyril flung himself down on one of the cots that had been

especially hardened for Terrestrial use and blew smoke rings at the ceiling. Skkiru was dying for a cigarette himself, but that was another cultural feature the Snaddrath had to dispense with now—not that smoking was insufficiently primitive, but that tobacco was not indigenous to the planet.

"That is because they are not a hostile people," Raoul insisted. "Apparently they have no enemies. Nonetheless, they are of the utmost interest. I hardly expected to land a society like this on my very first field trip," he added joyfully. "Never have I heard of so dynamic a culture! Never!"

"Nor I," Cyril agreed, "and this is far from being my very first field trip. It has a terribly large number of strange elements in it—strange, that is, when considered in relationship to the society as a whole. Environmental pressures seem to have had no effect upon their culture. For instance, don't you think it rather remarkable that a people with such an enormously complex social structure as theirs should wear clothing so ill adapted to protect them from the weather?"

"**W**ELL," Raoul pointed out enthusiastically — another undergraduate type, Skkiru observed, happiest with matters that either resembled those in books

or came directly from them, so that they could be explicitly pigeonholed — “the Indians of Tierra del Fuego wore nothing but waist-length sealskin capes even in the bitterest cold. Of course, this civilization is somewhat more advanced than theirs in certain ways, but one finds such anomalies in all primitive civilizations, does one not?”

“That’s true to a certain extent. But one would think they’d at least have developed boots to cope with the mud. And why was the beggar the only one to wear mudshoes? Why, moreover —” Cyril narrowed his eyes and pointed his cigarette at Raoul — “did he wear them only the first time and subsequently appear barefooted?”

“That *was* odd,” Raoul admitted, “but —”

“And the high priest spoke of thrashing that boy. You should know, old chap, that cruelty to children is in inverse ratio to the degree of civilization.”

Raoul stared at his colleague. “My faith, are you suggesting that we go see how hard they hit him, then?”

Cyril laughed. “All I suggest is that we keep a very open mind about this society until we can discover what fundamental attitudes are controlling such curious individual as well as group behavior.”

“But assuredly. That is what we are here for, is it not? So why are you disturbing yourself so much?”

But it was Raoul, Skkiru thought, who appeared much more disturbed than Cyril. It was understandable — the younger man was interested only in straightforward ethnologizing and undoubtedly found the developing complications upsetting.

“Look,” Cyril continued. “They call this place a hut. It’s almost a palace.”

*My God, Skkiru thought, what kind of primitive conditions are they used to?*

“That is largely a question of semantics,” Raoul protested. “But regard — the roof leaks. Is that not backward enough for you, eh?” And Raoul moved to another part of the room to avoid receiving indisputable proof of the leakage on his person. “What is more, the sanitary arrangements are undeniably primitive.”

“The roofs of many palaces leak, and there is no plumbing to speak of, and still they are not called huts. And tell me this — why should the metal-workers be the pariahs? Why *metal-workers*?”

Raoul’s eyes opened wide. “You know there is often an outcast class with no apparent rationale behind its establishment. All the tapes —”

“True enough, but you will re-

member that the reason the smiths of Masai were pariahs was that they manufactured weapons which might tempt people to commit bloodshed. I keep remembering them, somehow. I keep remembering so many things here . . ."

"But we have seen no weapons on this planet," Raoul argued. "In fact, the people seem completely peaceful."

"Right you are." Cyril blew another smoke ring. "Since this is a planet dependent chiefly upon minerals, why make the members of its most important industry the out-group?"

"You think it is that they may be secretly hostile?"

Cyril smiled. "I think they may be secretly something, but hardly hostile."

*Aha, Skkiru thought. Bbulas, my splendidly scaled friend, I will have something interesting to tell you.*

"**YOU** idiot!" Bbulas snarled later that night, as most of the Snaddrath met informally in the council chamber belowground, the new caste distinctions being, if not forgotten, at least in abeyance—for everyone except Bbulas. "You imbecile!" He whirled, unable to repress his Snadd emotions after a long behaviorally Terran day. "I have half a mind to get rid of you by

calling down divine judgment."

"How would you do that?" Skkiru demanded, emboldened by the little cry of dismay, accompanied by a semi-somersault, which Larhgan gave. In spite of everything, she still loved him; she would never belong to Bbulas, though he might plan until he was ochre in the face.

"Same way you did the rope trick. Only you wouldn't come back, my boy. Nice little cultural trait for the ethnologists to put in their peace pipes and smoke. Never saw such people for asking awkward questions." Bbulas sighed and straightened his antennae with his fingers, since their ornaments made them too heavy to allow reflective verticalization. "Remind me of final exams back on Gambrell."

"Anthropologists *always* ask awkward questions—everybody knows that," Larhgan put in. "It's their function. And I don't think you should speak that way to Skkiru, Bbulas. Like all of us, he's only trying to do his best. No man—or woman—can do more."

She smiled at Skkiru and his hearts whirled madly inside him. Only a dolt, he thought, would give way to despair; there was no need for this intolerable situation to endure for a lifetime. If only he could solve the problem more quickly than Bbulas expected or—Skkiru began to un-

derstand — wanted, Larhgan could be his again.

"With everybody trying to run this planet," Bbulas snarled, taking off his headdress, "no wonder things are going wrong."

Luccar intervened. Although it was obvious that he had been enjoying to a certain extent the happy anonymity of functionless yam-stealer, old elective responsibilities could not but hang heavy over a public servant of such unimpeachable integrity.

"After all," the old man said, "secretly we're still a democracy, and secretly I am still President, and secretly I'm beginning to wonder if perhaps we weren't a little rash in —"

"Look here, all of you," Bbulas interrupted querulously. "I'm not doing this for my own amusement."

**B**UT *that's just what you are doing*, Skkiru thought, *even though you wouldn't admit it to yourself, nor would you think of it as amusement.*

"You know what happened to Nemeth," Bbulas continued, using an argument that had convinced them before, but that was beginning to wear a little thin now. "Poorest, most backward planet in the whole Galaxy. A couple of ethnologists from Earth stumbled on it a little over a century ago and what happened? More kept

on coming; the trade ships followed. Now it's the richest, most advanced planet in that whole sector. There's no reason why the same thing can't happen to us in this sector, if we play our cards carefully."

"But maybe these two won't tell other anthropologists about us," Luccar said. "Something the older one remarked certainly seemed to imply as much. Maybe they don't want the same thing to happen again — in which case, all this is a waste of time. Furthermore," he concluded rather petulantly, "at my age, I don't like running about in the open; it's not healthful."

"If they don't tell other anthropologists about us," Bbulas said, his face paling to lime-green with anxiety, "we can spread the news unobtrusively ourselves. Just let one study be published, even under false coordinates, and we can always hire a good public relations man to let our whereabouts leak out. Please, everybody, stick to your appointed tasks and let me do the worrying. You haven't even given this culture a chance! It's hardly more than a day old and all I hear are complaints, complaints, complaints."

"You'd better worry," Skkiru said smugly, "because already those Terrans think there's something fishy about this culture. Ha, ha! Did you get that — fishy?"

Only Larhgan laughed. She loved him.

"How do you know they're suspicious?" Bbulas demanded. "Are you in their confidence? Skkiru, if you've been talking—"

"All I did was spy outside their door," Skkiru said hastily. "I knew you couldn't eavesdrop; it wouldn't look dignified if you were caught. But beggars do that kind of thing all the time. And I wanted to show you I could be of real use."

He beamed at Larhgan, who beamed back.

"I could have kept my findings to myself," he went on, "but I came to tell you. In fact—" he dug in his robe—"I even jotted down a few notes."

"It wasn't at all necessary, Skkiru," Bbulas said in a tired voice. "We took the elementary precaution of wiring their hut for sound and a recorder is constantly taking down their every word."

"Hut!" Skkiru kept his antennae under control with an effort, but his retort was feeble. "They think it's a palace. You did them too well, Bbulas."

"I may have overdone the exterior architecture a bit," the high priest admitted. "Not that it seems relevant to the discussion. Although I've been trying to arrange our primitivism according to Terrestrial ideas of cultural

backwardness, I'm afraid many of the physical arrangements are primitive according to our conceptions rather than theirs."

"**W**HY must we be primitive according to Terran ideas?" Luccar wanted to know. "Why must we be slaves even to fashions in backwardness?"

"Hear, hear!" cried an anonymous voice.

"And thank you, Skkiru," the former President continued, "for telling me they were suspicious. I doubt that Bbulas would have taken the trouble to inform me of so trivial a matter."

"As high priest," Bbulas said stiffly, "I believe the matter, trivial or not, now falls within my province."

"Shame!" cried an anonymous voice—or it might have been the same one.

Bbulas turned forest-green and his antennae twitched. "After all, you yourself, Luccar, agreed to accept the role of elder statesman—"

"Yam-stealer," Luccar corrected him bitterly, "which is not the same thing."

"On Earth, it is. And," Bbulas went on quickly, "as for our assuming primitive Earth attitudes, where else are we going to get our attitudes from? We can't borrow any primitive attitudes from Nemeth, because they're too well

known. And since there are no other planets we know of with intelligent life-forms that have social structures markedly different from the major Terran ones — except for some completely non-humanoid cultures, which, for physiological reasons, we are incapable of imitating — we have to rely upon records of primitive Terran sources for information. Besides, a certain familiarity with the traits manifested will make the culture more understandable to the Terrans, and, hence, more attractive to them psychologically." He stopped and straightened out his antennae.

"In other words," Skkiru commented, emboldened by a certain aura of sympathy he felt emanating from Larhgan, at least, and probably from Luccar, too, "he doesn't have the imagination to think up any cultural traits for himself, so he has to steal them — and that's the easiest place to steal them from."

"This is none of your business, Skkiru," Bbulas snapped. "You just beg."

"It's the business of all of us, Bbulas," Luccar corrected softly. "Please to remember that, no matter what our allotted roles, we are all concerned equally in this."

"Of course, of course, but please let me handle the situation in my own way, since I made the plans. And, Skkiru," the Dilettante

added with strained grace, "you may have a warm cloak to wear as soon as we can get patches welded on."

Then Bbulas took a deep breath and reverted to his old cheer-leader manner. "Now we must all get organized for the potlatch. We can give the Terrans those things the Ladies' Aid has been working on all year for the charity bazaar and, in exchange, perhaps they will give us more chocolate bars —" he glanced reproachfully at Skkiru — "and other food."

"And perhaps some yams," Luccar suggested, "so that — God save us — I can steal them."

"I'll definitely work on that," Bbulas promised.

SKKIRU was glad that, as beggar, he held no prominent position at the feast — in reality, no position at all — for he hated fish. And fish, naturally, would be the chief refreshment offered, since the Snaddrath did not want the Terrans to know that they had already achieved that degrading dependency upon the tin can that marks one of the primary differences between savagery and civilization.

There were fish pâté on rice crackers, fish soup with rice, boiled fish, baked fish, fried fish and a pilau of rice with fish. There were fish chitlins, fish chips,



fish cakes, fish candy and guslat — a potent distillation of fermented fish livers — to wash it all down. And even in the library, where Skkiru sought refuge from the festivities, fishy fumes kept filtering down through the ventilating system to assail his nostrils.

Bbulas had been right in a way, Skkiru had to admit to himself upon reflection. In trying to improve his lot, Skkiru had taken advantage of the Snaddrath's special kinetic talents, which had been banned for the duration — and so he had, in effect, committed a crime.

This time, however, he would seek to uplift himself in terms acceptable to the Terrans on a wholly indigenous level, and in terms which would also hasten the desired corruptive process — in a nice way, of course — so that the Snaddrath civilization could be profitably undermined as fast as possible and Larhgan be his once again. It was a hard problem to solve, but he felt sure he could do it. Anything Bbulas could do, he could do better.

Then he had it! And the idea was so wonderful that he was a little sorry at the limited range it would necessarily cover. His part really should be played out before a large, yoomping audience, but he was realistic enough to see that it would be most expedient for him to give a private perform-

ance for the Earthmen alone.

On the other hand, he now knew it should be offered outside the hut, because the recorder would pick up his cries and Bbulas would be in a spin — as he would be about any evidence of independent thinking on the planet. Bbulas was less interested in the planet's prospering, it was now clear to Skkiru, than in its continuing in a state where he would remain top fish.

**F**ORTUNATELY, the guslat had done its work, and by the time the Earthmen arrived at the door to their hut, they were alone. The rest of the company either had fallen into a stupor or could not trust themselves to navigate the mud.

The Earthmen—with an ingenuousness which would have augured well for the future development of their race, had it not already been the (allegedly) most advanced species in the Galaxy — had adapted some spare parts from their ship into replicas of Skkiru's mudshoes. They did, in truth, seem none too steady on their feet, but he was unable to determine to what degree this was a question of intoxication and what degree a question of navigation.

"Alms, for the love of Ipsnadd." He thrust forward his begging bowl.

"Regard, it is the beggar! Why were you not at the festivities, worthy mendicant?" Raoul hiccuped. "Lovely party. Beautiful women. Delicious fish."

Skkiru started to stand on his head, then remembered this was no longer a socially acceptable expression of grief and cast his eyes down. "I was not invited," he said sadly.

"Like the little match girl," Raoul sympathized. "My heart bleeds for you, good match girl—good beggar. Does your heart not bleed for him, Cyril?"

"Bad show," the older ethnologist agreed, with a faint smile. "But that's what you've got to expect, if you're going to be a primitive."

He was very drunk, Skkiru decided; he must be, to phrase his sentiments so poorly. Unless he—but no, Skkiru refused to believe that. He didn't mind Cyril's being vaguely suspicious, but that was as far as he wanted him to go. Skkiru's toes apprehensively started to quiver.

"How can you say a thing like that to a primitive?" Raoul demanded. "If he were not a primitive, it would be all right to call him a primitive, but one does not accuse primitives of being primitives. It's—it's downright primitive; that's what it is!"

"You need some coffee, my boy." Cyril grinned. "Black cof-

fee. That guslat of theirs is highly potent stuff."

They were about to go inside. Skkiru had to act quickly. He slumped over. Although he had meant to land on the doorstep, he lacked the agility to balance himself with the precision required and so he fell smack into the mud. The feel of the slime on his bare feet had been bad enough; oozing over his skin through the interstices of his clothing, it was pure hell. What sacrifices he was making for his planet! And for Larhgan. The thought of her would have to sustain him through this viscous ordeal, for there was nothing else solid within his grasp.

"Ubb!" he said, lifting his head from the ooze, so that they could see the froth coming out of his mouth. "Glub!"

**R**AOUL clutched Cyril. "What is he doing?"

"Having an epileptic fit, I rather fancy. Go on, old man," Cyril said to Skkiru. "You're doing splendidly. Splendidly!"

"I see the sky!" Skkiru howled, anxious to get his prophecies over with before he sank any deeper in the mud. "It is great magic. I see many ships in the sky. They are all coming to Snaddra . . ."

"Bearing anthropologists and chocolate bars, I suppose," murmured Cyril.

"Shhh," Raoul said indignantly. "You must not interrupt. He is having personal contact with the supernatural, a very important element of the primitive ethos."

"Thank you," Cyril said. "I'll try to remember that."

So will I, thought Skirru. "They carry learned men and food for the spiritually and physically hungry people of Snaddra," he interrupted impatiently. "They carry warm clothing for the poor and miserable people of Snaddra. They carry yams for the larcenous and frustrated people of Snaddra."

"Yams!" Raoul echoed. "Yams!"

"Shhh, this is fascinating. Go on, beggar."

But the mud sogging over Skkiru's body was too much. The fit could be continued at a later date — and in a drier location.

"Where am I?" he asked, struggling to a sitting position.

"You are on Snaddra, fifth planet of the sun Weebl," Raoul began, "in —"

"Weeeeebl," Skkiru corrected, getting to his feet with the older ethnologist's assistance. "What happened?" He beat futilely at the mud caught in the meshes of his metal rags. "I feel faint."

"Come in and have some coffee with us," Cyril invited. This also was part of Skirru's plan, for he had no intention of going back across that mud, if he could pos-



sibly help it. He had nothing further to say that the recorders should not hear. Bbulas might object to his associating with the Earthmen, but he couldn't do much if the association seemed entirely innocent. At the moment, Snaddra might be a theocracy, but the democratic hangover was still strong.

"I would rather have some hot chocolate," Skkiru said. "That is, if you have no objection to drinking with a beggar."

"My dear fellow—" Cyril put an arm around Skkiru's muddy shoulders — "we ethnologists do not hold with caste distinctions. Come in and have chocolate — with a spot of rum, eh? That'll make you right as a trivet in a matter of seconds."

**I**T WASN'T until much later, after several cups of the finest chocolate he had ever tasted, that Skkiru announced himself to feel quite recovered.

"Please do not bother to accompany me to the door," he said. "I can find my own way. You do me too much honor. I would feel shamefaced."

"But —" Cyril began.

"No," Skkiru said. "It is — it is bad form here. I insist. I must go my way alone."

"All right," Cyril agreed.

Raoul looked at him in some surprise.

"All right," Cyril repeated in a louder tone. "Go by yourself, if an escort would bother you. But please give the door a good bang, so the lock will catch."

Skkiru slammed the door lustily to simulate the effect of departure and then he descended via the secret passage inside the hut itself, scrabbling a little because the hot chocolate seemed strangely to have affected his sense of balance.

The rest of the Snaddrath were in the council chamber gloating over the loot from the potlatch. It was, as a matter of fact, a good take.

"Where were you, Skkiru?" Bbulas asked, examining a jar of preserved kumquats suspiciously. "Up to no good, I'll be bound."

"Oh, my poor Skkiru!" Larhgan exclaimed, before Skkiru could say anything. "How muddy and wretched-looking you are! I don't like this whole thing," she told Bbulas. "It's cruel. Being high priestess isn't nearly as much fun as I thought it would be."

"This is not supposed to be fun," the Dilettante informed her coldly. "It is in dead earnest. Since the question has been brought up, however, what did happen to you, Skkiru?"

"I — er — fell down and, being a beggar, I had no other garments to change into."

"You'll survive," Bbulas said

unfeelingly. "On Earth, I understand, people fall into mud all the time. Supposed to have a beneficial effect—and any effect on you, Skkiru, would have to be beneficial."

Larhgan was opening her mouth to say something — probably, Skkiru thought fondly, in his defense—when there came a thud and a yell from the passage outside. Two yells, in fact. And two thuds.

"My faith," exclaimed a Terrestrial voice, "but how did the beggar descend! I am sure every bone in my body is broken."

"I think you'll find him possessed of means of locomotion not known to us. But you're not hurt, old chap — only bruised."

And Cyril came into the council chamber, followed by a limping Raoul. "Good evening, ladies and gentlemen. I trust this is not an intrusion, although I'm quite sure you'll tell us we've broken a whole slue of tabus."

"You!" Bbulas screamed at Skkiru. "You must have used the passage in the hut! You let them follow you!"

Losing control of his own reflexes, he began to whirl madly.

"**B**UT regard this!" Raoul exclaimed, staring around him. "To build a place like this beneath the mud—name of a name, these people must have hy-

draulic engineering far superior to anything on Earth!"

"You are too kind," the former hydraulic engineer said deprecatingly. "Actually, it's quite simple—"

"This is not a primitive civilization at all, Raoul," Cyril explained. "They've been faking it from tapes. Probably have a culture very much like ours, with allowances for climatic differences, of course. Oh, undoubtedly it would be provincial, but —"

"We are not provincial," Larhgan said coldly. "Primitive, yes. Provincial, no! We are —"

"But why should they do a thing like this to us?" Raoul wailed.

"I imagine they did it to get on the trade routes, as Nemeth did. They've been trying not to talk about Nemeth all the while. Must have been rather a strain. You ought to be ashamed of yourselves!" Cyril told the assembled Snaddrath. "Very bad form!"

Bbulas was turning paler and paler as he whirled. "All your fault," he gasped hoarsely to Skkiru. "All your fault!"

And that was true, Skkiru realized. His antennae quivered, but he didn't even try to restrain them. He had meant well, yet he had messed up the planet's affairs far more seriously than Bbulas had. He had ruined their hopes, killed all their chances by

his carelessness. He, Skkiru, instead of being his planet's savior, was its spoiler. He psonked violently.

But Larhgan moved nearer to him. "It's all over, anyhow," she whispered, "and you know what? I'm glad. I'm glad we failed. I'd rather starve as myself than succeed as a sham."

Skkiru controlled himself. Silently, he took the grimpatch out of his carrier and, as silently, she took it back.

"My faith, they must have had plumbing all the time!" Raoul complained.

"Very likely," said Cyril sternly. "Looks as if we've suffered for nothing."

"Such people!" Raoul said. "True primitives, I am sure, would never have behaved so unfeelingly!"

Cyril smiled, but his face was hard as he turned back to the Snaddrath. "We'll radio Gambrell in the morning to have a ship dispatched to pick us up. I'm not sure but that we have a good case for fraud against you."

"We're destroyed!" Bbulas shrieked as the full emotional impact of the situation hit him. "An interplanetary lawsuit would ruin Snaddra entirely."

His cries were echoed in the howls of the other Snaddrath, their antennae psonking, their eyes bulging.

**A** GONIZED by his sorrow, Bbulas lost all emotional restraint, forgot about his Terrestrial training, and turned upside down in a spasm of grief. Since there was no longer any reason to repress their natural manifestation of feeling, all the Snaddrath followed suit, their antennae twisting in frenzy as they ululated.

And then, to Skkiru's surprise and the surprise of all the rest, Cyril stopped and took out his notebook. "Wait a minute," he said as Raoul did likewise. All four Earthly eyes were shining with a glow that was recognizable to any even remotely humanoid species as the glow of intellectual fervor. "Wait just a minute! Our plans are altered. We may stay, after all!"

One by one, the Snaddrath reversed to upright positions, but did not retract their eyes, for they were still staring at the Earthmen. Skkiru knew now what had been bothering him about the Terrestrials all along. They were crazy—that was what it was. Who but maniacs would want to leave their warm, dry planets and go searching the stars for strange cultures, when they could stay quietly at home in peace and comfort with their families?

Skkiru's hand reached out for Larhgan's and found it.

—EVELYN E. SMITH

# THE OTHER CELIA

By THEODORE STURGEON

*Something drastic should happen  
to all snoopers — but nothing as  
shocking and frightful as this!*

Illustrated by DILLON

**I**F YOU live in a cheap enough rooming house and the doors are made of cheap enough pine, and the locks are old-fashioned single-action jobs and the hinges are loose, and if you have a hundred and ninety lean pounds to operate with, you can grasp the knob, press the door sidewise against its hinges, and slip the latch. Further, you can lock the door the same way when you come out.

Slim Walsh lived in, and was, and had, and did these things partly because he was bored. The

company doctors had laid him up — not off, up — for three weeks (after his helper had hit him just over the temple with a fourteen-inch crescent wrench) pending some more X-rays. If he was going to get just sick-leave pay, he wanted to make it stretch. If he was going to get a big fat settlement — all to the good; what he saved by living in this firetrap would make the money look even better. Meanwhile, he felt fine and had nothing to do all day.

"Slim isn't dishonest," his mother used to tell Children's

Court some years back. "He's just curious."

She was perfectly right.

Slim was constitutionally incapable of borrowing your bathroom without looking into your medicine chest. Send him into your kitchen for a saucer and when he came out a minute later, he'd have inventoried your refrigerator, your vegetable bin, and (since he was six feet three inches tall) he would know about a moldering jar of maraschino cherries in the back of the top shelf that you'd forgotten about.

Perhaps Slim, who was not impressed by his impressive size and build, felt that a knowledge that you secretly use hair-restorer, or are one of those strange people who keeps a little mound of unmated socks in your second drawer, gave him a kind of superiority. Or maybe security is a better word. Or maybe it was an odd compensation for one of the most advanced cases of gawking, gasping shyness ever recorded.

Whatever it was, Slim liked you better if, while talking to you, he knew how many jackets hung in your closet, how old that unpaid phone bill was, and just where you'd hidden those photographs. On the other hand, Slim didn't insist on knowing bad or even embarrassing things about you. He just wanted to know things about you, period.

**H**IS current situation was therefore a near-paradise. Flimsy doors stood in rows, barely sustaining vacuum on aching vacuum of knowledge; and one by one they imploded at the nudge of his curiosity. He touched nothing (or if he did, he replaced it carefully) and removed nothing, and within a week he knew Mrs. Koyper's roomers far better than she could, or cared to. Each secret visit to the rooms gave him a starting point; subsequent ones taught him more. He knew not only what these people had, but what they did, where, how much, for how much, and how often. In almost every case, he knew why as well.

Almost every case. Celia Sarton came.

Now, at various times, in various places, Slim had found strange things in other people's rooms. There was an old lady in one shabby place who had an electric train under her bed; used it, too. There was an old spinster in this very building who collected bottles, large and small, of any value or capacity, providing they were round and squat and with long necks. A man on the second floor secretly guarded his desirables with the unloaded .25 automatic in his top bureau drawer, for which he had a half-box of .38 cartridges.

There was a (to be chivalrous)



girl in one of the rooms who kept fresh cut flowers before a photograph on her night-table—or, rather, before a frame in which were stacked eight photographs, one of which held the stage each day. Seven days, eight photographs: Slim admired the system. A new love every day and, predictably, a different love on successive Wednesdays. And all of them movie stars.

Dozens of rooms, dozens of imprints, marks, impressions, overlays, atmospheres of people. And they needn't be odd ones. A woman moves into a room, however standardized; the instant she puts down her dusting powder on top of the flush tank, the room is *hers*. Something stuck in the ill-fitting frame of a mirror, something draped over the long-dead gas jet, and the same of rooms begins to shrink toward its occupant as if it wished, one day, to be a close-knit, form-fitting, individual integument as intimate as a skin.

But not Celia Sarton's room.

Slim Walsh got a glimpse of her as she followed Mrs. Koyper up the stairs to the third floor. Mrs. Koyper, who hobbled, slowed any follower sufficiently to afford the most disinterested witness a good look, and Slim was anything but disinterested. Yet for days he could not recall her clearly. It was as if Celia Sarton

had been—not invisible, for that would have been memorable in itself—but translucent or, chameleonlike, drably re-radiating the drab wall color, carpet color, woodwork color.

She was—how old? Old enough to pay taxes. How tall? Tall enough. Dressed in . . . whatever women cover themselves with in their statistical thousands. Shoes, hose, skirt, jacket, hat.

She carried a bag, When you go to the baggage window at a big terminal, you notice a suitcase here, a steamer-trunk there; and all around, high up, far back, there are rows and ranks and racks of luggage not individually noticed but just *there*. This bag, Celia Sarton's bag, was one of them.

And to Mrs. Koyper, she said—she said—She said whatever is necessary when one takes a cheap room; and to find her voice, divide the sound of a crowd by the number of people in it.

SO ANONYMOUS, so unnoticeable was she that, aside from being aware that she left in the morning and returned in the evening, Slim let two days go by before he entered her room; he simply could not remind himself about her. And when he did, and had inspected it to his satisfaction, he had his hand on the knob, about to leave, before he recalled

that the room was, after all, occupied. Until that second, he had thought he was giving one of the vacancies the once-over. (He did this regularly; it gave him a reference-point.)

He grunted and turned back, flicking his gaze over the room. First he had to assure himself that he was in the right room, which, for a man of his instinctive orientations, was extraordinary. Then he had to spend a moment of disbelief in his own eyes, which was all but unthinkable. When that passed, he stood in astonishment, staring at the refutation of everything his — hobby — had taught him about people and the places they live in.

The bureau drawers were empty. The ashtray was clean. No toothbrush, toothpaste, soap. In the closet, two wire hangers and one wooden one covered with dirty quilted silk, and nothing else. Under the grime-gray dresser scarf, nothing. In the shower stall, the medicine chest, nothing and nothing again, except what Mrs. Koyper had grudgingly installed.

Slim went to the bed and carefully turned back the faded coverlet. Maybe she had slept in it, but very possibly not; Mrs. Koyper specialized in unironed sheets of such a ground-in gray that it wasn't easy to tell. Frowning, Slim put up the coverlet again and smoothed it.

Suddenly he struck his forehead, which yielded him a flash of pain from his injury. He ignored it. "The bag!"

It was under the bed, shoved there, not hidden there. He looked at it without touching it for a moment, so that it could be returned exactly. Then he hauled it out.

IT was a black gladstone, neither new nor expensive, of that nondescript rusty color acquired by untended leatherette. It had a worn zipper closure and was not locked. Slim opened it. It contained a cardboard box, crisp and new, for a thousand virgin sheets of cheap white typewriter paper surrounded by a glossy bright blue band bearing a white diamond with the legend: *Nonpareil the writers friend 15% cotton fiber trade mark registered.*

Slim lifted the paper out of the box, looked under it, riffled a thumbful of the sheets at the top and the same from the bottom, shook his head, replaced the paper, closed the box, put it back into the bag and restored everything precisely as he had found it. He paused again in the middle of the room, turning slowly once, but there was simply nothing else to look at. He let himself out, locked the door, and went silently back to his room.

He sat down on the edge of his



bed and at last protested, "Nobody *lives* like that!"

**H**IS room was on the fourth and topmost floor of the old house. Anyone else would have called it the worst room in the place. It was small, dark, shabby and remote and it suited him beautifully. Its door had a transom, the glass of which had many times been painted over.

By standing on the foot of his bed, Slim could apply one eye to the peephole he had scratched in the paint and look straight down the stairs to the third-floor landing. On this landing, hanging to the stub of one of the ancient gas jets, was a cloudy mirror surmounted by a dust-mantled gilt eagle and surrounded by a great many rococo carved flowers. By careful propping with folded cigarette wrappers, innumerable tests and a great deal of silent milage up and down the stairs, Slim had arranged the exact tilt necessary in the mirror so that it covered the second floor landing as well.

And just as a radar operator learns to translate glowing pips and masses into aircraft and weather, so Slim became expert at the interpretation of the fogged and distant image it afforded him. Thus he had the comings and goings of half the tenants under surveillance without having to leave his room.

It was in this mirror, at twelve minutes past six, that he saw Celia Sarton next, and as he watched her climb the stairs, his eyes glowed.

The anonymity was gone. She came up the stairs two at a time, with a gait like bounding. She reached the landing and whirled into her corridor and was gone, and while a part of Slim's mind listened for the way she opened her door (hurriedly, rattling the key against the lock-plate, banging the door open, slamming it shut), another part studied a mental photograph of her face.

What raised its veil of the statistical ordinary was its set purpose. Here were eyes only superficially interested in cars, curbs, stairs, doors. It was as if she had projected every important part of herself into that empty room of hers and waited there impatiently for her body to catch up. There was something in the room, or something she had to do there, which she could not, would not, wait for. One goes this way to a beloved after a long parting, or to a deathbed in the last, precipitous moments. This was not the arrival of one who wants, but of one who needs.

Slim buttoned his shirt, eased his door open and sidled through it. He poised a moment on his landing like a great moose sensing the air before descending to a

waterhole, and then moved downstairs.

Celia Sarton's only neighbor in the north corridor—the spinster with the bottles—was settled for the evening; she was of very regular habits and Slim knew them well.

Completely confident that he would not be seen, he drifted to the girl's door and paused.

**S**HE was there, all right. He could see the light around the edges of the ill-fitting door, could sense that difference between an occupied room and an empty one, which exists however silent the occupant might be. And this one was silent. Whatever it was that had driven her into the room with such headlong urgency, whatever it was she was doing (*had to do*) was being done with no sound or motion that he could detect.

For a long time—six minutes, seven—Slim hung there, open-throated to conceal the sound of his breath. At last, shaking his head, he withdrew, climbed the stairs, let himself into his own room and lay down on the bed, frowning.

He could only wait. Yet he *could* wait. No one does any single thing for very long. Especially a thing not involving movement. In an hour, in two—

It was five. At half-past eleven, some faint sound from the floor

below brought Slim, half-dozing, twisting up from the bed and to his high peephole in the transom. He saw the Sarton girl come out of the corridor slowly, and stop, and look around at nothing in particular, like someone confined too long in a ship's cabin who has emerged on deck, not so much for the lungs' sake, but for the eyes'. And when she went down the stairs, it was easily and without hurry, as if (again) the important part of her was in the room. But the something was finished with for now and what was ahead of her wasn't important and could wait.

Standing with his hand on his own doorknob, Slim decided that he, too, could wait. The temptation to go straight to her room was, of course, large, but caution also loomed. What he had tentatively established as her habit patterns did not include midnight exits.

He could not know when she might come back and it would be foolish indeed to jeopardize his hobby—not only where it included her, but all of it—by being caught. He sighed, mixing resignation with anticipatory pleasure, and went to bed.

Less than fifteen minutes later, he congratulated himself with a sleepy smile as he heard her slow footsteps mount the stair below. He slept.

**T**HERE was nothing in the closet, there was nothing in the ashtray, there was nothing in the medicine chest nor under the dresser scarf. The bed was made, the dresser drawers were empty, and under the bed was the cheap gladstone. In it was a box containing a thousand sheets of typing paper surrounded by a glossy blue band. Without disturbing this, Slim riffled the sheets, once at the top, once at the bottom. He grunted, shook his head and then proceeded, automatically but meticulously, to put everything back as he had found it.

"Whatever it is this girl does at night," he said glumly, "it leaves tracks like it makes noise."

He left.

The rest of the day was unusually busy for Slim. In the morning he had a doctor's appointment, and in the afternoon he spent hours with a company lawyer who seemed determined to (a) deny the existence of any head injury and (b) prove to Slim and the world that the injury must have occurred years ago. He got absolutely nowhere. If Slim had another characteristic as consuming and compulsive as his curiosity, it was his shyness; these two could stand on one another's shoulders, though, and still look upward at Slim's stubbornness. It served its purpose. It took hours, however, and it was after seven

when he got home.

He paused at the third-floor landing and glanced down the corridor. Celia Sarton's room was occupied and silent. If she emerged around midnight, exhausted and relieved, then he would know she had again raced up the stairs to her urgent, motionless task, whatever it was . . . and here he checked himself. He had long ago learned the uselessness of cluttering up his busy head with conjectures. A thousand things might happen; in each case, only one would. He would wait, then, and could.

And again, some hours later, he saw her come out of her corridor. She looked about, but he knew she saw very little; her face was withdrawn and her eyes wide and unguarded. Then, instead of going out, she went back into her room.

He slipped downstairs half an hour later and listened at her door, and smiled. She was washing her lingerie at the handbasin. It was a small thing to learn, but he felt he was making progress. It did not explain why she lived as she did, but indicated how she could manage without so much as a spare handkerchief.

Oh, well, maybe in the morning.

**I**N THE morning, there was no maybe. He found it, he found it, though he could not know what it was he'd found. He laughed at

first, not in triumph but wryly, calling himself a clown. Then he squatted on his heels in the middle of the floor (he would not sit on the bed, for fear of leaving wrinkles of his own on those Mrs. Koyper supplied) and carefully lifted the box of paper out of the suitcase and put it on the floor in front of him.

Up to now, he had contented himself with a quick riffle of the blank paper, a little at the top, a little at the bottom. He had done just this again, without removing the box from the suitcase, but only taking the top off and tilting up the banded ream of *Nonpareil-the-writers-friend*. And almost in spite of itself, his quick eye had caught the briefest flash of pale blue.

Gently, he removed the band, sliding it off the pack of paper, being careful not to slit the glossy finish. Now he could freely riffle the pages, and when he did, he discovered that all of them except a hundred or so, top and bottom, had the same rectangular cut-out, leaving only a narrow margin all the way around. In the hollow space thus formed, something was packed.

He could not tell what the something was, except that it was pale tan, with a tinge of pink, and felt like smooth untextured leather. There was a lot of it, neatly folded so that it exactly

fitted the hole in the ream of paper.

He puzzled over it for some minutes without touching it again, and then, scrubbing his fingertips against his shirt until he felt that they were quite free of moisture and grease, he gently worked loose the top corner of the substance and unfolded a layer. All he found was more of the same.

He folded it down flat again to be sure he could, and then brought more of it out. He soon realized that the material was of an irregular shape and almost certainly of one piece, so that folding it into a tight rectangle required care and great skill. Therefore he proceeded very slowly, stopping every now and then to fold it up again, and it took him more than an hour to get enough of it out so that he could identify it.

Identify? It was completely unlike anything he had ever seen before.

It was a human skin, done in some substance very like the real thing. The first fold, the one which had been revealed at first, was an area of the back, which was why it showed no features. One might liken it to a balloon, except that a deflated balloon is smaller in every dimension than an inflated one. As far as Slim could judge, this was life-sized—a little over five feet long and proportioned accordingly. The hair

was peculiar, looking exactly like the real thing until flexed, and then revealing itself to be one piece.

It had Celia Sarton's face.

Slim closed his eyes and opened them, and found that it was still true. He held his breath and put forth a careful, steady forefinger and gently pressed the left eyelid upward. There was an eye under it, all right, light blue and seemingly moist, but flat.

Slim released the breath, closed the eye and sat back on his heels. His feet were beginning to tingle from his having knelt on the floor for so long.

**H**E looked all around the room once, to clear his head of strangeness, and then began to fold the thing up again. It took a while, but when he was finished, he knew he had it right. He replaced the typewriter paper in the box and the box in the bag, put the bag away and at last stood in the middle of the room in the suspension which overcame him when he was deep in thought.

After a moment of this, he began to inspect the ceiling. It was made of stamped tin, like those of many old-fashioned houses. It was grimy and flaked and stained; here and there, rust showed through, and in one or two places, edges of the tin sheets had sagged. Slim nodded to himself

in profound satisfaction, listened for a while at the door, let himself out, locked it and went upstairs.

He stood in his own corridor for a minute, checking the position of doors, the hall window, and his accurate orientation of the same things on the floor below. Then he went into his own room.

His room, though smaller than most, was one of the few in the house which was blessed with a real closet instead of a rickety off-the-floor wardrobe. He went into it and knelt, and grunted in satisfaction when he found how loose the ancient, unpainted floorboards were. By removing the side baseboard, he found it possible to get to the air-space between the fourth floor and the third-floor ceiling.

He took out boards until he had an opening perhaps fourteen inches wide, and then, working in almost total silence, he began cleaning away dirt and old plaster. He did this meticulously, because when he finally pierced the tin sheeting, he wanted not one grain of dirt to fall into the room below. He took his time and it was late in the afternoon when he was satisfied with his preparations and began, with his knife, on the tin.

It was thinner and softer than he had dared to hope; he almost



overcut on the first try. Carefully he squeezed the sharp steel into the little slot he had cut, lengthening it. When it was somewhat less than an inch long, he withdrew all but the point of the knife and twisted it slightly, moved it a sixteenth of an inch and twisted again, repeating this all down the cut until he had widened it enough for his purposes.

He checked the time, then returned to Celia Sarton's room for just long enough to check the appearance of his work from that side. He was very pleased with it. The little cut had come through a foot away from the wall over the bed and was a mere pencil line lost in the baroque design with which the tin was stamped and the dirt and rust that marred it. He returned to his room and sat down to wait.

He heard the old house coming to its evening surge of life, a voice here, a door there, footsteps on the stairs. He ignored them all as he sat on the edge of his bed, hands folded between his knees, eyes half closed, immobile like a machine fueled, oiled, tuned and ready, lacking only the right touch on the right control. And like that touch, the faint sound of Celia Sarton's footsteps moved him.

To use his new peephole, he had to lie on the floor half in and

half out of the closet, with his head in the hole, actually below floor level. With this, he was perfectly content, any amount of discomfort being well worth his trouble — an attitude he shared with many another ardent hobbyist, mountain-climber or speleologist, duck-hunter or bird-watcher.

WHEN she turned on the light, he could see her splendidly, as well as most of the floor, the lower third of the door and part of the washbasin in the bathroom.

She had come in hurriedly, with that same agonized haste he had observed before. At the same second she turned on the light, she had apparently flung her handbag toward the bed; it was in midair as the light appeared. She did not even glance its way, but hastily fumbled the old gladstone from under the bed, opened it, removed the box, opened it, took out the paper, slipped off the blue band and removed the blank sheets of paper which covered the hollowed-out ream.

She scooped out the thing hidden there, shaking it once like a grocery clerk with a folded paper sack, so that the long limp thing straightened itself out. She arranged it carefully on the worn linoleum of the floor, arms down at the side, legs slightly apart, face up, neck straight. Then she lay down on the floor, too, head-

to-head with the deflated thing. She reached up over her head, took hold of the collapsed image of herself about the region of the ears, and for a moment did some sort of manipulation of it against the top of her own head.

Slim heard faintly a sharp, chitinous click, like the sound one makes by snapping the edge of a thumbnail against the edge of a fingernail.

Her hands slipped to the cheeks of the figure and she pulled at the empty head as if testing a connection. The head seemed now to have adhered to hers.

Then she assumed the same pose she had arranged for this other, letting her hands fall wearily to her sides on the floor, closing her eyes.

For a long while, nothing seemed to be happening, except for the odd way she was breathing, very deeply but very slowly, like the slow-motion picture of someone panting, gasping for breath after a long hard run. After perhaps ten minutes of this, the breathing became shallower and even slower, until, at the end of a half hour, he could detect none at all.

Slim lay there immobile for more than an hour, until his body shrieked protest and his head ached from eyestrain. He hated to move, but move he must. Silently he backed out of the

closet, stood up and stretched. It was a great luxury and he deeply enjoyed it. He felt moved to think over what he had just seen, but clearly and consciously decided not to — not yet, anyway.

When he was unkinked, again, he crept back into the closet, put his head in the hole and his eye to the slot.

Nothing had changed. She still lay quiet, utterly relaxed, so much so that her hands had turned palm upward.

Slim watched and he watched. Just as he was about to conclude that this was the way the girl spent her entire nights and that there would be nothing more to see, he saw a slight and sudden contraction about the region of her solar plexus, and then another. For a time, there was nothing more, and then the empty thing attached to the top of her head began to fill.

And Celia Sarton began to empty.

Slim stopped breathing until it hurt and watched in total astonishment.

**O**NCE it had started, the process progressed swiftly. It was as if something passed from the clothed body of the girl to this naked empty thing. The something, whatever it might be, had to be fluid, for nothing but a fluid would fill a flexible con-

tainer in just this way, or make a flexible container slowly and evenly flatten out like this. Slim could see the fingers, which had been folded flat against the palms, inflate and move until they took on the normal relaxed curl of a normal hand. The elbows shifted a little to lie more normally against the body. And yes, it was a body now.

The other one was not a body any more. It lay foolishly limp in its garments, its sleeping face slightly distorted by its flattening. The fingers fell against the palms by their own limp weight. The shoes thumped quietly on their sides, heels together, toes pointing in opposite directions.

The exchange was done in less than ten minutes and then the newly filled body moved.

It flexed its hands tentatively, drew up its knees and stretched its legs out again, arched its back against the floor. Its eyes flickered open. It put up its arms and made some deft manipulation at the top of its head. Slim heard another version of the soft-hard click and the now-empty head fell flat to the floor.

The new Celia Sarton sat up and sighed and rubbed her hands lightly over her body, as if restoring circulation and sensation to a chilled skin. She stretched as comfortably and luxuriously as Slim had a few minutes earlier.

She looked rested and refreshed.

At the top of her head, Slim caught a glimpse of a slit through which a wet whiteness showed, but it seemed to be closing. In a brief time, nothing showed there but a small valley in the hair, like a normal parting.

She sighed again and got up. She took the clothed thing on the floor by the neck, raised it and shook it twice to make the clothes fall away. She tossed it to the bed and carefully picked up the clothes and deployed them about the room, the undergarments in the washbasin, the dress and slip on a hanger in the wardrobe.

Moving leisurely but with purpose, she went into the bathroom and, except for her shins down, out of Slim's range of vision. There he heard the same faint domestic sounds he had once detected outside her door, as she washed her underclothes. She emerged in due course, went to the wardrobe for some wire hangers and took them into the bathroom. Back she came with the underwear folded on the hangers, which she hooked to the top of the open wardrobe door. Then she took the deflated integument which lay crumpled on the bed, shook it again, rolled it up into a ball and took it into the bathroom.

Slim heard more water-running and sudsing noises, and, by ear,

followed the operation through a soaping and two rinses. Then she came out again, shaking out the object, which had apparently just been wrung, pulled it through a wooden clothes-hanger, arranged it creaselessly depending from the crossbar of the hanger with the bar about at its waistline, and hung it with the others on the wardrobe door.

Then she lay down on the bed, not to sleep or to read or even to rest — she seemed very rested — but merely to wait until it was time to do something else.

**B**Y now, Slim's bones were complaining again, so he wormed noiselessly backward out of his lookout point, got into his shoes and a jacket, and went out to get something to eat. When he came home an hour later and looked, her light was out and he could see nothing. He spread his overcoat carefully over the hole in the closet so no stray light from his room would appear in the little slot in the ceiling, closed the door, read a comic book for a while, and went to bed.

The next day, he followed her. What strange occupation she might have, what weird vampiric duties she might disclose, he did not speculate on. He was doggedly determined to gather information first and think later.

What he found out about her

daytime activities was, if anything, more surprising than any wild surmise. She was a clerk in a small five-and-ten on the East Side. She ate in the store's lunch bar at lunchtime — a green salad and a surprising amount of milk — and in the evening she stopped at a hot-dog stand and drank a small container of milk, though she ate nothing.

Her steps were slowed by then and she moved wearily, speeding up only when she was close to the rooming house, and then apparently all but overcome with eagerness to get home and . . . into something more comfortable. She was watched in this process, and Slim, had he disbelieved his own eyes the first time, must believe them now.

So it went for a week, three days of which Slim spent in shadowing her, every evening in watching her make her strange toilet. Every twenty-four hours, she changed bodies, carefully washing, drying, folding and putting away the one she was not using.

Twice during the week, she went out for what was apparently a constitutional and nothing more — a half-hour around midnight, when she would stand on the walk in front of the rooming house, or wander around the block.

At work, she was silent but

not unnaturally so; she spoke, when spoken to, in a small, unmusical voice. She seemed to have no friends; she maintained her aloofness by being uninteresting and by seeking no one out and by needing no one. She evinced no outside interests, never going to the movies or to the park. She had no dates, not even with girls. Slim thought she did not sleep, but lay quietly in the dark waiting for it to be time to get up and go to work.

And when he came to think about it, as ultimately he did, it occurred to Slim that within the anthill in which we all live and have our being, enough privacy can be exacted to allow for all sorts of strangeness in the members of society, providing the strangeness is not permitted to show. If it is a man's pleasure to sleep upside-down like a bat, and if he so arranges his life that no one ever sees him sleeping, or his sleeping-place, why, batlike he may sleep all the days of his life.

One need not, by these rules, even be a human being. Not if the mimicry is good enough. It is a measure of Slim's odd personality to report that Celia Sarton's ways did not frighten him. He was, if anything, less disturbed by her now than he'd been before he had begun to spy on her. He knew what she did in her room and how

she lived. Before, he had not known. Now he did. This made him much happier.

HE was, however, still curious. His curiosity would never drive him to do what another man might — to speak to her on the stairs or on the street, get to know her and more about her. He was too shy for that. Nor was he moved to report to anyone the odd practice he watched each evening. It wasn't his business to report. She was doing no harm as far as he could see. In his cosmos, everybody had a right to live and make a buck if they could.

Yet his curiosity, its immediacy taken care of, did undergo a change. It was not in him to wonder what sort of being this was and whether its ancestors had grown up among human beings, living with them in caves and in tents, developing and evolving along with *homo sap* until it could assume the uniform of the smallest and most invisible of wage-workers. He would never reach the conclusion that in the fight for survival, a species might discover that a most excellent characteristic for survival among human beings might be not to fight them but to join them.

No, Slim's curiosity was far simpler, more basic and less informed than any of these con-

jectures. He simply changed the field of his wonderment from *what* to *what if*?

So it was that on the eighth day of his survey, a Tuesday, he went again to her room, got the bag, opened it, removed the box, opened it, removed the ream of paper, slid the blue band off, removed the covering sheets, took out the second Celia Sarton, put her on the bed and then replaced paper, blue band, box-cover, box, and bag just as he had found them. He put the folded thing under his shirt and went out, carefully locking the door behind him in his special way, and went upstairs to his room. He put his prize under the four clean shirts in his bottom drawer and sat down to await Celia Sarton's homecoming.

She was a little late that night — twenty minutes, perhaps. The delay seemed to have increased both her fatigue and her eagerness; she burst in feverishly, moved with the rapidity of near-panic. She looked drawn and pale and her hands shook. She fumbled the bag from under the bed, snatched out the box and opened it, contrary to her usual measured movements, by inverting it over the bed and dumping out its contents.

When she saw nothing there but sheets of paper, some with a wide rectangle cut from them and

some without, she froze. She crouched over that bed without moving for an interminable two minutes. Then she straightened up slowly and glanced about the room. Once she fumbled through the paper, but resignedly, without hope. She made one sound, a high, sad whimper, and, from that moment on, was silent.

She went to the window slowly, her feet dragging, her shoulders slumped. For a long time, she stood looking out at the city, its growing darkness, its growing colonies of lights, each a symbol of life and life's usages. Then she drew down the blind and went back to the bed.

**S**HE stacked the papers there with loose uncaring fingers and put the heap of them on the dresser. She took off her shoes and placed them neatly side by side on the floor by the bed. She lay down in the same utterly relaxed pose she affected when she made her change, hands down and open, legs a little apart.

Her face looked like a death-mask, its tissues sunken and sagging. It was flushed and sick-looking. There was a little of the deep regular breathing, but only a little. There was a bit of the fluttering contractions at the midriff, but only a bit. Then — nothing.

Slim backed away from the

peephole and sat up. He felt very bad about this. He had been only curious; he hadn't wanted her to get sick, to die. For he was sure she had died. How could he know what sort of sleep-surrogate an organism like this might require, or what might be the results of a delay in changing? What could he know of the chemistry of such a being? He had thought vaguely of slipping down the next day while she was out and returning her property. Just to see. Just to know *what if*. Just out of curiosity.

Should he call a doctor?

She hadn't. She hadn't even tried, though she must have known much better than he did how serious her predicament was. (Yet if a species depended for its existence on secrecy, it would be species-survival to let an individual die undetected.) Well, maybe not calling a doctor meant that she'd be all right, after all. Doctors would have a lot of silly questions to ask. She might even tell the doctor about her other skin, and if Slim was the one who had fetched the doctor, Slim might be questioned about that. Slim didn't want to get involved with anything. He just wanted to know things.

He thought, "I'll take another look."

He crawled back into the closet and put his head in the

hole. Celia Sarton, he knew instantly, would not survive this. Her face was swollen, her eyes protruded, and her purpled tongue lolled far — too far — from the corner of her mouth. Even as he watched, her face darkened still more and the skin of it crinkled until it looked like carbon paper which has been balled up tight and then smoothed out.

The very beginnings of an impulse to snatch the thing she needed out of his shirt drawer and rush it down to her died within him, for he saw a wisp of smoke emerge from her nostrils and then —

Slim cried out, snatched his head from the hole, bumping it cruelly, and clapped his hands over his eyes. Put the biggest size flash-bulb an inch from your nose, and fire it, and you might get a flare approaching the one he got through his little slot in the tin ceiling.

He sat grunting in pain and watching, on the insides of his eyelids, migrations of flaming worms. At last they faded and he tentatively opened his eyes. They hurt and the after-image of the slot hung before him, but at least he could see.

Feet pounded on the stairs. He smelled smoke and a burned, oily unpleasant something which he could not identify. Someone shouted. Someone hammered on

a door. Then someone screamed and screamed.

IT was in the papers next day. Mysterious, the story said. Charles Fort, in *Lo!*, had reported many such cases and there had been others since—people burned to a crisp by a fierce heat which had nevertheless not destroyed clothes or bedding, while leaving nothing for autopsy. This was, said the paper, either an unknown kind of heat or heat of such intensity and such brevity that it would do such a thing. No known relatives, it said. Police

mystified—no clues or suspects.

Slim didn't say anything to anybody. He wasn't curious about the matter any more. He closed up the hole in the closet that same night, and next day, after he read the story, he used the newspaper to wrap up the thing in his shirt drawer. It smelled pretty bad and, even that early, was too far gone to be unfolded. He dropped it into a garbage can on the way to the lawyer's office on Wednesday.

They settled his law suit that afternoon and he moved.

—THEODORE STURGEON



## FORECAST

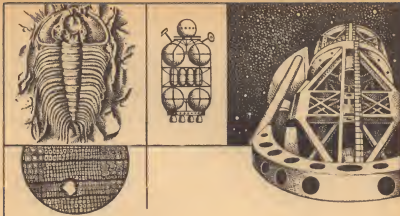
One of the unnoted but personally important side results of the current world situation is that it keeps Clifford D. Simak from producing as much science fiction as he and we would like him to . . . being city editor of the *Minneapolis Star*, he has to keep a doctor's hours while the human race toddles, infant-fashion, from frying pans into fires. But out of this war-risome existence comes OPERATION STINKY, next month's lead novelet, which finds a solution by discovering a friend. Man's best friend is — is what? The answer is so vital that every national resource has to be poured into learning the answer!

Robert Sheckley's novelet, THE VICTIM FROM SPACE, intraduces us to wonderfully compliant and yet horrifyingly obstinate aliens. A time to sow, a time to reap, a time to live — all the Igathians agree with this — but not when it comes to a time to die!

We have quite a number of other really choice novelets in stock, too, and adds are that next month's issue will contain at least one of them. Short stories and our regular features, natchmente . . .

And Willy Ley, in THE COMING OF THE ROBOTS, has to go back a surprising distance into history in order to bring this futuristic science fiction theme up to date!



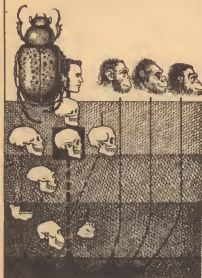


# for your information

By WILLY LEY

**The Great Pyramid**

**The Golden Section  
and  $\pi$**



**T**O REASSURE all those readers who, when reading the above title, muttered to themselves that these three things have absolutely nothing to do with each other, I wish to state in this very first sentence that I agree with them. Of course neither the "golden section" nor  $\pi$  is hidden in the structure which an ardent and effusive admirer once called the Miracle in Stone, using the word "miracle" in its literal religious meaning. But it is an

interesting story how all the multitudinous misunderstandings surrounding the Great Pyramid originated.

That the pyramid of King Khufu was a major engineering and organizational accomplishment is something that does not need to be stressed.

It is not only astonishing that a structure of such size was built as early as it was; it is also astonishing how well it was built. As a matter of fact, Khufu's pyramid is of better workmanship than the later pyramids built on the same plateau, the so-called pyramid plateau of Giza, about six miles to the west of Cairo. Since Khufu was the first to build a pyramid in this particular locality, the whole plateau was originally named after him. It was called *Akhet Khufu*, or "Khufu's Horizon."

**W**HY Khufu picked this particular locality for his pyramid is not known. That is, we don't know of any inscription saying that Pharaoh decreed this site because his fellow gods had told him to begin his soul-voyage after death from this place. But we can think of a number of eminently practical reasons why he chose this spot.

To begin with, he could see it from his summer palace and watch the actual work going on.

Secondly, the location of the building site was such that, when the annual Nile flood occurred, the blocks of stone could be floated on rafts to the foot of the growing structure. Finally, most egyptologists (and especially the Egyptian egyptologists) believe that Khufu's pyramid hides an outcropping of natural rock which obviously saved that much work in the erection of a virtually solid structure.

Even so, 2,300,000 blocks of stone went into the pyramid, averaging 2½ tons in weight, with a few that must weigh about 15 tons each. The rock was quarried nearby. Professor Selim Hassan found some ancient quarries within easy walking distance of the pyramid.

Originally the pyramid had an outer casing of white limestone — Greek writers who saw it blinding white under the desert sun assumed that it was white limestone all the way through — which is now gone. Not completely gone, though; it merely is no longer a part of Khufu's pyramid, but forms portions of still-standing mosques.

Without its casing, the pyramid is 450 feet tall. We can't tell precisely how high it was originally.

The white limestone came from Turah, somewhat farther south and on the other side of the river, involving transportation over 14

miles of water. Some of the granite used in the interior came from Aswan, a good distance up-river, but again with the possibility of water transport.

It was the height of the structure which is responsible for its name. The Egyptians called this height *pyr-em-us*. The Greeks adapted the term to their tongue



Fig. 1.

King Khufu's name: the line around it, called cartouche, means it is a king's name

by pronouncing it *pyramis* and using it as a designation for that particular shape. Herodotus coined a plural, *pyramides*, from which, at a much later date, the current singular "pyramid" was derived.

Since we are on the subject of names, I am sorry to report that we don't really know how the

name of the king was pronounced. The written form (Fig. 1) transliterates as *Hwfw* which, in order to be able to say it at all, is pronounced Khufu. Cheops (the "ch" should also be sounded as "kh") is the Greek form used by Herodotus.

**H**ERODOTUS, incidentally, seems to have been the first who told stories about the pyramid which do not strictly jibe with the truth.

"One of the most frequently repeated stories," to quote Prof. Hassan Selim, from an article in the Egyptian monthly *The Scribe*, February, 1956, "is that in order to build the pyramid, Khufu closed the temples and enslaved the whole population to work as slave-laborers on its construction. This story has been going the rounds since the middle of the Fifth Century B. C., when the Greek traveler and historian Herodotus visited Egypt and evidently fell into the hands of a typical dragoman, who, like his modern descendants, thought that a few sensational stories would earn him a bigger tip from the glibble stranger."

They probably did, but because more than a score of centuries had gone by since the actual work, the Egyptian may easily have believed his own stories.

A dozen centuries after Herod-

otus, other travelers came and saw the pyramids. Apparently no stories were told any more, and though the travelers probably saw examples of hieroglyphic writing, there was nobody on Earth then who could read it. Consequently they wondered about the nature and the purpose of these structures.

Christian travelers, remembering their Bible, theorized that these must have been the giant storehouses for grain which Joseph had built to combat the forthcoming seven-year famine. Moslem philosophers remembered the older writings, too, but evolved a different explanation. There may have been kings not mentioned in these writings and the prophets of these kings must have told them about the future coming of the deluge. The kings then ordered the pyramids built as refuges from the coming flood.

Some less learned people reasoned that anything so massive must guard great wealth in gold and jewels, and they drew practical conclusions from their opinion, sometimes with success.

All these speculations dealt with pyramids in general, the pyramids of Egypt which extend over an area of 40 miles from north to south along the Nile (ten times as much if you include a few far to the south near Thebes and Edfu). The speculations of

the last century are restricted to just one pyramid, that of Khufu.

The one who started it may have been, in all innocence, the famous astronomer Sir William Herschel. In his time, nobody knew just how old the pyramids were. The only thing that was certain was that they had already been old in the time of Herodotus. Herschel, learning that the entrance to the pyramid of Khufu formed a rather steep incline, may have been reminded of his telescopes and he wondered which star one might see if one were standing on the bottom of the entrance.

Some rather tedious calculations provided an answer. Looking through that shaft, an observer would have seen the star *alpha Draconis*, if the year were 2160 B. C. Herschel then stated that the pyramid may have been built in that year.

We now know that it is much older.

**B**UT Herschel's attempt to date the building of the pyramid on astronomical grounds took hold — long after his death.

It was in 1859 that John Taylor, a London publisher and book-dealer, published a book which he had written himself. It bore the title *The Great Pyramid, Why was it built and Who built it?* His conclusion was that the pyramid had been built for the

purpose of embodying a few important measurements. If Taylor had been an American, he might have said that it was the Egyptian equivalent of the Bureau of Standards, with the additional twist that all the standards are "classified information" not meant for the average dumb citizen.

In the course of his romancing, John Taylor discovered that the Egyptians must have used the same units of measurement as the English—or at least the more important of these units—and he succeeded in finding a unit which had been lost. In England at that time, a Quarter was used as a measurement for wheat. Taylor said, "A quarter of what?" and found the answer: The original "whole," four Quarters of wheat, was the "so-called" sarcophagus of the pharaoh.

Taylor also found that the height of the pyramid (which he overestimated by a few feet) was  $1/270,000$  of the circumference of the Earth. Here one can only say, "Why not?" for the height of the pyramid obviously must be some fraction of the circumference (or of the diameter) of the Earth.

Taylor was willing to admit that a few such things could be coincidences. To feel sure that it was planned, he looked for something which could not be a coincidence—or so he thought—and he found one, too. The square

of the height of the pyramid, compared to the area of one of its triangular faces, demonstrated the "golden section."

That "golden section" had been around ever since the days of Euclid and had at irregular intervals taken hold of somebody's imagination. (At present, hardly anyone pays any attention to it.)

Let's first see what the term means (Fig. 2).

We have here a distance  $AB$  which is to be divided according to the golden section. To do so, we erect a vertical line in  $B$  which is precisely half as long as  $AB$ . The rest of the construction can be read off the diagram. The result is that the distance called the *minor* has the same proportion to the *major* as the *major* has to the total, namely  $AB$ . And if we now subtract the *minor* from the *major*, we have divided the *major* according to the golden section.

THE golden section was publicized for the first time by an Italian, Luca Pacioli, who may be the inventor of double-entry book-keeping; at any rate, this method appears in print for the first time in one of his books. After having produced this boon for tax collectors and merchants, he intended to bestow a similar boon to artists with a book called *De Divina Proportione*, published in 1509

with illustrations by his friend Leonardo da Vinci.

Pacioli tried to show — and succeeded to a good extent — that most of the things we consider “beautiful” are constructed in accordance with the golden section when broken down into measurements. The numerical relationship of the golden section is 5 to 8 and, for centuries, all books did correspond to it. European books still do, at least more often than American books. The only book in my library which is of American origin and which shows that proportion is the *World Almanac*.

The next time the golden section was consciously “rediscovered” by the artists, or more precisely by the theorists of art, was around the middle of the nineteenth century, just the time in which John Taylor wrote. It cannot be said that his book was a success and it probably would have been forgotten completely if it had not been for Charles Piazzi Smyth, at that time Astronomer Royal for Scotland.

Smyth was the son of an admiral and he happened to be born in Italy. His godfather at the christening was Father Giuseppe Piazzi, the discoverer of the asteroid Ceres, the first asteroid to be found. Father Piazzi said then that he hoped that the child would become an astronomer.

Charles Piazzi Smyth did be-

come an astronomer and, as an astronomer, he made important contributions to spectroscopy, then a very new science. He also deserves much credit for advocating an innovation which now seems obvious to us — building observatories on high mountains.

At the age of forty, Smyth came across John Taylor's book and became enchanted with it. Thinking and dreaming about it, he quickly convinced himself that Taylor had barely scratched the surface. He thought and calculated and worked and, in 1864, he wrote a 600-page book called *Our Inheritance in the Great Pyramid*.

It was a great success and its awed readers learned that the main item in the plan for the Great Pyramid had been nothing less than the squaring of the circle. Smyth said that the bottom



Fig. 2. The “golden section”

square of the pyramid represented — or, rather, was equal to — the circumference of a circle drawn with the height of the pyramid as its radius.

WHOEVER read this with a critical or just an open eye should have stopped right there. Maybe the base of the pyramid measured 3055.24 feet, as Prof. Smyth said, but how about the height? The outer casing and with it the point of the pyramid were missing. Therefore the height could not be measured directly. Of course if the casing had been there, one could have measured the slope angle and calculated the height from that.

The slope angle must have been near  $52^\circ$ , so Smyth said that it originally was  $51^\circ 51' 14.3''$  which produced a height of 486.256 feet. Therefore the ratio of height to circumference corresponded to two  $\pi$ . Insisting that this could not be a coincidence and apparently unaware of the fact that he himself had not *found* the figure but *put it in*, Smyth went on to other discoveries.

At the base, one side of the pyramid measured 763.81 feet. The Egyptians naturally had not used feet as a unit of measurement; it must have been something else. Smyth divided these 763.81 feet by 365.2422 and got a unit he called the "pyramid me-

ter." Why this figure? Obviously the builders of the pyramid had wanted to express the number of days in the year by the base line.

Dividing the pyramid meter into 25 equal parts, Smyth obtained the pyramid inch, which, by a strange coincidence, differed from the English inch by just  $1/1000$ th of an inch. Obviously the English still used the pyramid inch, but had not kept its length accurately through the millennia. It had shrunk by  $1/10$ th of one per cent.

Having the "pyramid meter" and the "pyramid inch," Smyth really got going.

Multiply the pyramid inch by  $10^7$  and you have the length of the polar axis of the Earth.

Multiply the pyramid inch by the height of the pyramid (in pyramid inches, of course) and then multiply that figure by  $10^9$  and you get the distance from the Earth to the Sun. (The result is 91.84 million miles, which is neither perihelion nor aphelion nor mean distance.)

Express the cubic content of the pyramid in cubic inches and you have the total number of all people that have lived on Earth since the Creation.

AS FOR the so-called sarcophagus, it was not only the original standard for volumetric measurements, according to

Smyth. It was more. Its volume, expressed in cubic pyramid meters, was precisely 5.7, which looks like a wrong figure until you realize that this is the specific gravity of the Earth as a whole! (Actually the density of the Earth is 5.52.)

One reader, by profession an engineer, wrote later that Smyth's treatise cost him the better part of a night and that it had the result that he "did not fall asleep in my bed but in a medley of endless decimals, triangles and circles, complicated by polar diameters and astronomical distances; dealing with empty granite sarcophagi and pharaohs with mile-long measuring rods marching through space with the luminous eyes of prophets."

He realized that Smyth had "found" his "cosmic figures" in the pyramid by putting them in in the first place. But he also said that he had the faint feeling that something still needed to be explained.

It was explained several decades later by the egyptologist Ludwig Borchardt, who approached the whole problem from the opposite direction. He asked just what unit the Egyptians had actually used in building. Moreover, he wanted to know just how far advanced their mathematics had been.

As for the unit of measurement,

he found that they used the ell. There was a minor complication in that it seemed that they had used two different kinds of ells. One had a length of seven palms, the other of six palms. Although the six-palm ell corresponds better to reality (an ell is the length from the elbow to the tip of the longest finger), the seven-palm ell was used for construction, at least for large buildings.

In our measurement, the "royal ell" of seven palms is a little less than 21 inches. Borchardt used 525 millimeters as an approximation. Then the palm would be 75 millimeters or just about three inches. Each palm, in turn, was divided into four fingers, which would measure 19 millimeters each if the figure for the royal ell of 525 millimeters is accepted. At any event, the ell had seven palms or 28 "fingers."

As regards Egyptian arithmetic, we know that they could handle simple fractions like  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ , etc., and fractions like  $\frac{3}{4}$  (namely 1 minus  $\frac{1}{4}$ ) or  $\frac{2}{3}$  (1 minus  $\frac{1}{3}$ ). When it comes to pyramids, we have a few examples in the famous *Papyrus Rhind* which, while old, is probably a good deal younger than the pyramid.

**E**XAMPLE No. 56 in the *Papyrus Rhind* requested the pupil to calculate the slope of a pyramid with a base length of



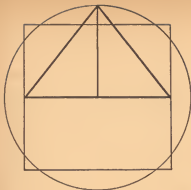


Fig. 3.

Piazzi Smyth's construction of squaring the circle with the aid of the Great Pyramid

360 ells and a height of 250 ells. A modern high school boy would reach for the logarithm table and come up (unless he made a mistake) with the answer  $54^{\circ} 14' 46''$ . The Egyptian advanced pupil answered  $5 \frac{1}{25}$  palms.

Example No. 58 said that the base length was 140 ells and the height  $93\frac{1}{3}$  ells. The answer was  $5\frac{1}{4}$  palms.

And example No. 59 (no doubt dealing with a backyard pyramid) gave 12 ells as the length of the base line and 8 ells as the height. The answer was also  $5\frac{1}{4}$  palms.

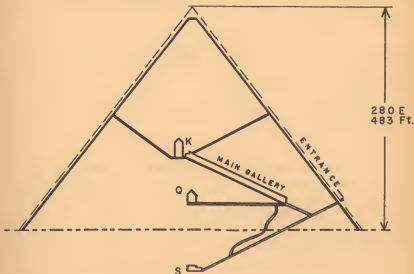


Fig. 4.

Cross section of Khufu's pyramid. S means an abandoned burial chamber (unfinished), Q is the so-called Queen's chamber, never used, K the King's chamber. The two shafts to the King's chamber were for ventilation

What do these answers mean?

The answer is given in Fig. 5. The answer meant that the slope of the pyramid was so many palms from a vertical line one ell in height. That this is correct is proved by the fact that measuring triangles for the use of builders and masons have been found which corresponded to slopes of 5,  $5\frac{1}{4}$ , etc., palms, all rather awkward angles if expressed in degrees and minutes of arc.

The slope of the Great Pyramid was quite close to  $52^\circ$ . For lack of the casing, one could not be any more precise than that. A slope of  $5\frac{1}{2}$  palms produces an

angle of  $51^\circ 50.6'$ . And that would have made the pyramid 280 ells high, a neat, even figure—in Egyptian measurements, that is.

Now remember that John Taylor had proclaimed that the pyramid represented the golden section. Prof. Smyth had proclaimed that it represented *pi*. Since it cannot possibly do both, Borchardt calculated what the respective angles would have to be and how the measurements would have come out in Egyptian ells. The result surprised everybody. You find it clearly demonstrated in this table:

---

	S L O P E		
	for <i>pi</i>	for $5\frac{1}{2}$ palms	golden section
slope angle	$51^\circ 51.2'$	$51^\circ 50.6'$	$51^\circ 49.6'$
slope (Egyptian)	4.4979 P.	5.5000 P.	5.5032 P.
base line for 280 ells height	439.82 E.	440 E.	440.24 E.

---

**S**MALL wonder that people were led astray if the *pi* slope, the golden section slope and the simple Egyptian slope were practically the same. They are so much alike that it is impossible to distinguish them on a drawing of anything like publishable size.

That they did not "intend" to build a *pi* slope is also clear from

the *Papyrus Rhind*, where the ratio we now call *pi* appears in examples No. 41, 48 and 50 in the form that  $\frac{8}{9}$ th of the diameter of a circle is the side of a square of equal area. In our notation, this makes *pi* equal to 3.1604, which is too large. If they had tried for the *pi* slope, it would have been a different pyramid, considering their idea of the value

of *pi*. There is no way of saying whether they knew the golden section, but it is not even remotely likely.

We are left then with the realization that Khufu's builders were extremely skilled workers, but that they did not try to hide any cosmic secrets. And where did they acquire their skill? Well, while the Great Pyramid is the biggest and one of the oldest pyramids, there had been considerable practice in building before. The pyramid had forerunners, called mastabas (Fig. 6).

No. 1 shows a cross section of the mastaba of King Mena of the First Dynasty. It is just a subterranean burial chamber covered by a solid slab of mud brick. No. 2 is the mastaba of King Djer of the First Dynasty and No. 3 the

mastaba of King Den, also of the First Dynasty. You can see how the pyramid shape was gradually approached. No. 4 is the tomb of King Zoser of the Third Dynasty; I called it "tomb" for, as can be seen, it is hard to decide whether this was still a rather complicated mastaba or a pyramid without casing.

The first pyramid which did have a casing, filling in the steps, was that of King Snefru of the Fourth Dynasty, the same dynasty to which King Khufu belonged.

I said earlier that Herodotus was probably told a tall tale when he was informed that the whole nation was drafted by Khufu to build his pyramid. It was an unlikely story in the first place, for one can assume that a pharaoh knew better than to ruin all commerce for years.

But then who did provide the muscle power? No doubt that slaves did work on the pyramid; this is only logical for a slaveholding society. But slaves in general also had other vital things to do.

The most likely answer is that the local *fellahin*, the peasants, were employed once a year.

When the Nile flooded the country, the circumstances were proper for floating in the building blocks. And it was also the time when the *fellahin* had to sit idle,

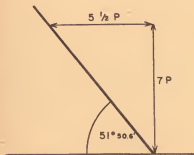


Fig. 5

Egyptian method of measuring angles

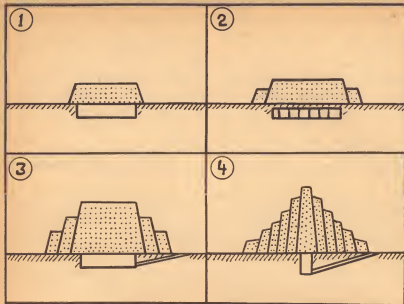


Fig. 6. Forerunner of the pyramids, the mastabas

precisely because their fields were flooded, making it logical to employ them for this period. Maybe the word "employ" is not quite right. They were probably drafted. But we now know that they were paid, mostly in food and clothing.

It is still probable that the

overseers carried whips. But they also carried, in the last stages of the building, the triangles made for a slope of  $5\frac{1}{2}$  palms per ell of vertical height, the proportion which was destined to cause so much confusion thousands of years later.

— WILLY LEY



# THE DEEP ONE

*There wasn't a single mistake  
in the plan for survival—and  
that was the biggest mistake!*

By NEIL P. RUZIC

Illustrated by DILLON

**F**OR centuries, the rains swept eight million daily tons of land into the sea. Mountains slowly crumpled to ocean floors. Summits rose again to see new civilizations heaped upon fossils of the old.

It was the way of the Earth and men knew it and did not

worry. The end was always in the future. Ever since men first learned to make marks on cave walls, the end remained in the future.

Then the future came. The records told men how the Sun was before, so they knew it was swollen now. They knew the heat

was not always this hot, or the glacier waters so fast, the seas so high.

They adapted — they grew tanner and moved farther poleward.

When the steam finally rose over equatorial waters, they moved to the last planet, Pluto, and their descendants lived and died and came to know the same heat and red skies. Finally there came the day when they couldn't adapt — not, at least, in the usual way.

But they had the knowledge of all the great civilizations on Earth, so they built the last spaceship.

They built it very slowly and carefully. Their will to live became the will to leave this final, perfect monument. It took a hundred and fifty years and during all that time they planned every facet of its operation, every detail of its complex mechanisms. Because the ship had a big job to do, they named it *Destiny* and people began to think of it not as the last of the spaceships, but as the first.

The dying race sowed the ship with human seed and hopefully named its unborn passengers Adam, Eve, Joseph and Mary. Then they launched it toward the middle of the Milky Way and lay back in the red light of their burning planet.

ALL this was only a memory now, conserved in the think-tank of a machine that raced through speckled space, dodging, examining, classifying, charting what it saw. Behind, the Sun shrank as once it swelled, and the planets that were not consumed turned cold in their orbits. The Sun grew fainter and went out, and still the ship sped forward, century after century, cometlike, but with a purpose.

At many of the specks, the ship circled, sucking in records, passing judgment, moving on — a bee in the garden of stars. Finally, hundreds of light-years from what had been its home, it located an Earth-type world, accepted it from a billion miles off, and swung into an approach that would last exactly eighteen years.

Immediately, pumps delivered measured quantities of oxygen and nitrogen atoms. Circuits closed to move four tiny frozen eggs next to frozen spermatozoa. The temperature gradually increased to a heat once maintained by animals now extinct.

The embryos grew healthily and at term were born of plastic wombs.

The first voices they heard were of their real mothers. Soft, caressing songwords. Melodious, warm, recorded women voices, each different, bell-clear, vivacious, betraying nothing of the

fact that they were dead these long centuries.

"I am your mother," each voice told its belated offspring. "You can see me and hear me and touch what appears to be me, and together with your cousins, you'll grow strong and healthy. . ."

The voices sang on and the babies gurgled in their imported terran atmosphere. The words were meaningless but important, for it had been learned on the now dead world that these sounds were one of the factors in love and learning.

Day after day, the voices lapped warm over the children. Plastic feeders provided nutrition as noiseless pumps removed excess carbon dioxide.

In one end of the ship, a miniature farm was born hydroponically, its automatic grinders predigesting ripe vegetables for the children. Animals were born, too, for food, but also companionship, and later to stock New Earth ahead.

As the babies began to understand, the woman voices merged into one mechanical mother who could be heard and seen and summoned on panel screens throughout the ship. Everything became as Earthlike as possible, but because the environment was artificial, the children grew aware of their purpose in life at an age rarely reached on ancient Earth.

**T**HEY were two years old when their Mecmother informed them: "You are unlike any children ever born. You are the last of a dead race, but you must live. You must not be afraid. You must do everything humanly possible to live."

When they were four, Mecmother introduced them to Mec-teacher and said to pay attention for five hours each day. Mec-teacher took their IQs and explained to Adam that he had a greater capacity than Eve, Joseph and Mary, and was therefore their leader.

Soon afterward, all the children started "school," but Adam excelled. At seven, he knew all about landing the ship. He played that he was already eighteen and the ship was no longer on automatic.

He was in everything and everywhere. His tow hair poked above the control board. His busy fingers hand-picked an experimental meal from the farmroom. When he learned how to turn the artificial gravity switch off in the recroom, his child legs floated haphazardly somewhere above his head. And in the sunroom, where heat-lamp walls were triggered by the degree of an occupant's tan, Adam's freckled face stared through the visiport, seeing in his mind's eye the New Earth he would one day conquer.

He lived fully, asking questions, accepting the answers, receiving instructions. Some of them he testily disobeyed, was punished compassionately, and learned respect and a kind of love for the mecs.

He played the games of childhood, but he played them alone. Once he was gazing out a port, imaginatively sorting the stars of his universe into shapes of the animals in the ship's farm. Mecfather lit up at a nearby panel, glowing faintly red. Adam resisted an impulse to shiver — the panel always made him flinch when it glowed red. Red, he was being conditioned, was his conscience, brought out by Mecfather until he grew old enough to bring it out himself.

"Why aren't you playing with the other children?" Mecfather asked. "I've been watching you all day and you've avoided them on every occasion."

Though he feared him, Adam loved Mecfather as he had been taught to do and did not hesitate to confide. But how could he explain that the other children did not seem as *real* to him as the mecs?

"I don't know," Adam answered truthfully.

"They don't ignore you. They ask you to play, but you always go off by yourself. Don't you like them?"

"They're flat, Father. They're not deep — like you."

**S**ILENT hidden computers assembled the answer, correlated, circuited a mechanical smile. Certainly — a child brought up with only three real children and three talking images in his universe could not distinguish between reality and appearance. On the screen, Adam saw Mecfather smile, the panel no longer red.

The voice was quiet now and full of understanding. "It is I who am flat, Adam. I am only an image, a voice. I am here when you need me to help, but I am not deep. Your cousins are deep; I am the flat one. You will understand better when you grow older."

Electronically, Mecfather was worried. He called a "conference" of the other mecs and their circuits joined in a complicated analog: What was the probable outcome of this beginning of disharmony? There were too many variables for an immediate answer, but the query was stored in each mec's memory banks for later answer.

When the meconference began, the panel switched off and Adam walked thoughtfully through the ship's corridors. Unexpectedly, he spotted the other children. He turned quickly into a room before they saw him and



ducked behind the largest of the couches.

He was in the aft recroom, he realized, not having paid attention to where he was going. What was it all about? Did Mecfather really mean it when he said the cousins were deeper than the mecs? Adam could believe he was different from his parents and teacher — after all, he was only seven — but he couldn't accept the information that he was *not* different from his cousins. Somehow, he thought, I am alone. . .

He heard noises, the loud boisterousness of Joseph, the high-pitched squeal of Eve, the grating laugh of Mary. Adam cringed deeper behind the big couch. He was different. *He* didn't make sounds like that.

"Adam! Oh, A-dam! A-dam!" the cousins called, each their own way. "Come out wherever you are, Adam! Come out and play!"

From behind the couch, Adam saw the beginnings of an infantile but systematic search. The three of them were looking behind things, under furniture, in back of hatches. They tried moving everything they saw, but couldn't budge the heavy couch Adam hid behind.

Looking for escape, Adam's eyes caught a round metallic handle set flush into the heavy deck carpet. He lifted it and pulled. Nothing happened. He stood up,

bracing his feet against the deck and heaved with all his strength. It didn't move.

Then he experimentally turned the handle — to the right until it clicked faintly, then the left, around twice, another faint click, but different, a left-hand click, he knew somehow. So he turned again to the left, this time three turns — and then the click was heavy, almost audible. He pulled the handle and a door formed out of the carpet, swinging easily open.

Just then, Joseph peered behind the couch. "Bool"

**A**DAM jumped into the opening, the heavy door slamming shut overhead. Below, he stood erect and was surprised to feel the hair on his head brush the ceiling.

He was frightened, but he calmed when he realized there were many places on the ship he hadn't been before. Mecteacher revealed them to him, but very slowly, and he supposed he would not be told about *everything* for many years. As he recovered his sense of balance, he became aware of a faint luminescence around him. It seemed to have no source, but was stronger in the distance.

He began to explore, groping at first, then more smoothly, efficiently, as his eyes adjusted to

the semi-darkness. A long corridor opened up before him and what appeared before to be an illusion of distance actually was distance. He guessed he was near the engine compartment and vaguely sensed that the luminescence had something to do with the nuclear engines that Mecfather told him moved the ship.

It was warm in here. Not physically warm but friendly warm, like when Mecmother spoke her comfort. The similarity almost made him cry, for he understood, even in his seven years, that Mecmother was but the image of his real mother who lived long ago and said those words of sympathy to a child yet unborn. He wanted her now, even her image, but he didn't call because he'd have to explain why he was hiding from his cousins.

He shivered then, thinking that Mecfather and Mecteacher knew where he was and would light up their panels red. He thought, "Are you down here, Mecfather?" Nothing answered, so he spoke the thought, and again the walls stayed dark.

That was why it was so friendly warm in here, he realized. His meconscience was left above!

Deciding that the others might miss him, he retraced his steps, located the trapdoor in the ceiling, pushed it open and ascended. The others were sitting on the

floor, dumbfounded, as Adam climbed out and slammed the hatch shut.

"How did you get down there?" Joseph asked.

Adam remained silent. After a moment, Eve and Mary lost interest in the question and started skipping a length of rope.

Joseph persisted. "How? I pulled, too!"

Adam didn't answer. He knew the bigger boy would forget about it if he changed the subject. "How is it you're not with Mecteacher?"

"We were. But he made us look for you."

The closest wall panel lit bright red. It was Mecteacher. "*Adam! How did you open that?*"

"I turned it — a certain way," he said evasively. Adam didn't want his cousins to learn how.

"But how did you know?"

"I — I reasoned it."

THE image faded as the new information was assimilated. Mecteacher's voice said, "Wait a while, Adam."

The computer circuited the other mec's memory banks. After ten minutes, the "conference" was over and Mecteacher returned to the screen. He asked Adam to come alone to the classroom. The others were dismissed.

Reluctantly, Adam did as he was told. In the classroom, he stood stiffly in front of the cen-



tral panels. All three mecs lit up, their color this time a tranquilizing blue.

"Adam, we are not real people in the now," Mecmother began. "Do you understand that?"

"Y-yes, I understand. You are — planned — fixed before."

"That's right, Adam. We are pre-set. We have a very large number of choices and actions, but we are not infinite."

"Infinite?"

"We are limited in the help we can give you. We were real — like you — a long, long time ago. We exist now only to help you and the other children. We are here to educate you, to love and console you — and one other thing. We are here to settle your conflicts, to make sure you don't hurt each other."

"But I didn't hurt anyone, Mecmother!"

"Not yet, Adam, but avoiding the others the way you do could be the first sign of trouble."

"How do you know? How can you talk if you aren't real?"

"What you hear is a combination of recorded words that are electronically put together to answer an almost infinite number of your questions. But do not think of me as not real. I was merely in another time. Do you understand that?"

"Yes."

"Then you also are able to see

that your ability to reason things — to understand what I am telling you now, for instance, is a remarkable thing."

"You mean because I'm not like the others?"

"You have a superior mind. You are the leader, but do not regard yourself as better than the others. You have more intelligence, yes, but do not look down on your cousins for that. They may develop other qualities better than yours. Stay simple, Adam, and you will be able to live among them and thereby make the human race live again. The name of this ship is *Destiny*. Do you know why?"

"Yes — I know."

"Be with the other children then. Play with them. You'll need each other to live on New Earth — eleven years from now."

HE THOUGHT sullenly, how can I play with them when they're *flat*? But he didn't object out loud to Mecmother. He didn't like her this way. Explanation was Mecteacher's job and discipline Mecfather's. Mecmother should be warm and loving.

Mecteacher appeared and asked Adam to call in the other children so the science lesson could start.

He found them tanning in the sunroom, their unclothed bodies evenly browned from invisible

light. They followed Adam without question, but seemed to take a long time doing it. Joseph insisted first in donning clothes, but he put on protective clothing first. Then, realizing the absurdity of it, he switched to his formality suit — the loose-fitting robe Mecteacher instructed the children to wear to lend dignity to the class-work.

During Joseph's delay, the girls ambled off somewhere and returned only when Adam shouted after them in exasperation. Quickening his pace, Adam reached the classroom first and asked Mecteacher, "Are the other children — deep?"

"Deep? Yes, Adam, Mecteacher explained that to you. Why are you confused? It's us, the mecs, who are flat. The other children are healthy, living beings. The cells from which all of you were born were selected after years of controlled breeding. Your parents were the finest the human race could produce — intelligent, strong, healthy, high survival quotient. Is this what you mean by deep?"

"Partly, but also — *feeling*. I think I feel things better."

The other children waddled in, took their seats and switched on robomonitors in the ritual of classroom procedure. They all looked at Mecteacher in the central panel.

Mecteacher motioned Adam to his chair-desk and began the lesson. He described Old Earth and how it circled Old Sol with the other worlds and the way the moons circled the planets — all of them condensed into spheres and all the spheres turning in harmony.

He interrupted himself when Mary's robomonitor registered only partial comprehension. "What don't you understand, Mary? Is it *sphere*?"

"I know what a sphere is," she said, remembering a previous lesson. "A sphere is an apple or an orange —"

MECTEACHER detected a covert wince from Adam's monitor. The teacher appeared to Adam on his desk panel where the others couldn't see or hear. "Do not think this is because she is not — deep, Adam. She is only seven and not as advanced for her age as you are. You understand how we mecs are pre-set?"

"Yes."

"In the classroom, then, if we don't go fast enough for you, try to be patient. We can only deviate within set limits. It is not a new problem, Adam. On Earth, it impeded the educational system from the beginning."

Simultaneously with his conversation with Adam, Mecteacher held up an apple on the central

panel and re-explained the age-old analogy between the apple and the Earth, the red skin and the Terran crust, and further, the supposition that New Earth ahead would be like Old Earth and the apple.

Eve wanted to know whether New Earth would have a New Moon.

"That's an interesting question, Eve. But we are still too many millions of miles away to know yet. Before you are ready to leave the ship, you will know."

In the months that passed, Adam tried associating more with the other children. He played their games, which seemed to him to be played without a purpose, but they wouldn't or couldn't play his — with one exception.

He showed them how to turn off the artificial gravity in the recreation room and they became obsessed with the same physical euphoria he had discovered for himself. But even while in free-fall, Adam maintained his need for reason and couldn't indulge their pointless pastimes for long. Often, when he grew tired of free-falling, he visited his lonely chamber under the deck and explored the working parts of the ship.

On almost each occasion when he returned, he was caught by one of the mecs and punished with fiercely glowing red panels. Remembering a previous conver-

sation with the mecs, Adam reasoned that their present dissatisfaction with him was not real. After all, he recalled, they were pre-set. They *had* to act like that when he disobeyed them. Going against them wasn't necessarily the same as doing wrong.

It took an act of will and intelligence far in advance of his seven years, for Adam realized that if he continued like this, the conditioning would eat at his brain like acid and guilt would rise in the etch. So, from under the ship's deck, he turned the mecs permanently off.

THE stars changed with the passing years. The blue giant Adam used to watch from the darkside port was now a diamond chip lost in starmilk night. Ahead, a new jewel grew larger in the quartz port, a sapphire blazing hot and big — bigger than any star in his memory, closer than the *Destiny* had ever come to a star.

Adam understood why the star was so big. He was eighteen Old Earth years of age now and the star was New Sol. Soon there would be a New Earth and maybe a New Moon. His destiny was near, his job decided. He would locate the planet, orbit it, search for a clear space and land. Then he and the others —

The others. The repulsive,

flighty, inconsistent trio. They were alike, all right, with never a serious thought in their heads. Why weren't they concerned with their destiny as he was? If he were a genius as the mecs once told him, why weren't the others also geniuses? They all came from the best stock of Old Earth. No, it wasn't just that he was supernormal; the others were — flat, undeep.

For years, he had kept peace by yielding to their demands. He suffered their company, succumbed to their activities. But every so often, when he felt especially disgusted, he retreated to his private sanctum under the deck. This was such a time now, he felt, as Eve and Mary giggled over to him.

They were not nude as had been the custom aboard the ship ever since he turned off the mecs. They had clothes draped over parts of them that seemed somehow to make them more than nude. But they wore red coloring on their lips that he thought was repulsive.

He ducked behind the couch, clicked open the familiar combination and descended into the only peace he ever knew. He sat at a chair-table he had lowered into the compartment long ago, and peered pensively at the drawings before him. If Mecteacher were here, he thought, the orbit

wouldn't be so difficult to calculate. He'd explain how to do it.

And then, he wondered, would Mecteacher have taught the others how to be deep? Or was depth something inside, something that could not be altered by education? If this were a world with other people, he thought, would my cousins be considered abnormals — or would I?

HE PONDERED the question for a moment, then decided, as he had so often in the past, that it was truly the cousins who were the flat ones. They were deviants from an average that couldn't exist on the *Destiny*, but which must have once existed elsewhere. They had been flat at seven — perhaps when children are supposed to be flat, as Mecteacher had suggested — but they stayed that way. At eighteen, as at seven, they still played the same games with scarcely any variation.

He heard them rummaging above, attempting again and again to pull open the hatch. It had happened this way for years: They'd try to open the trapdoor for an hour or two, then give it up and turn their attention to something else. They never thought to turn the handle. Maybe an undeep person wouldn't be able to reason the combination clicks, but only a completely flat one would

persist in pulling when it always ended in failure.

Possibly, he thought, the cosmic rays had been more destructive to their egg cells. Or maybe the alien radiations subtracted something from the other cells to add to his. If this were true, he was partly a product of the others and owed his depth to them.

Adam felt sorry for his cousins then and wished he hadn't hurt them by avoiding their presence. Despite their undepth, they must have feelings. The mecs probably wouldn't have been able to give them depth but, he remembered, the other role of the mecs was to prevent each one of them from harming the others. In their role as arbitrator, Adam realized, they might have stopped him from hurting them so.

Filled with remorse, he left his desk-chair and walked stoop-shouldered under the low ceiling. At the trapdoor, he opened the combination on the inside lock handle and pushed upward. It wouldn't open. He tried again, but it wasn't the lock that was stuck. They must have slid something heavy over the hatch, something he couldn't move.

He tried calling to them, but his voice was lost in the insulative metal of the deck. Finally he sat down, conserving his strength for a final onslaught.

If he couldn't open the hatch,

he realized vividly it would be not only his failure, but the failure of the human race.

But maybe it did not have to be so. Maybe the differences in the others weren't biological—maybe they were environmental. And with that thought, he made his way through the narrow passageway and reversed his deed of eleven years past. He turned the mecs back on.

Returning to the hatch, he reworked the combination to make sure it was not the lock that held him. He pushed upward with all his strength, steadily with increasing pressure, until the beads of perspiration turned into gulleys that streamed down his face.

Exhausted, he crawled back to his chair and lay across the desk littered with calculations of a landing he would never make. The soft luminescence from the *Destiny's* nuclear engines crept forward and caressed him.

**I**N THE aft recroom, Eve and Mary were admiring Joseph's strength in being able to push the heavy couch over Adam's trapdoor.

Three wall panels lit red. All the mecs appeared together. "It's time for your science lesson," one said. "But where is Adam?"

"He's in the trapdoor," they answered flatly.

The panel turned green, reserv-



ing its redness for the delinquent Adam when he would choose to appear.

Mecteacher began, "Now about the Solar System . . ."

But the cousins didn't listen. Joseph had turned the gravity switch off and they were too busy floating upended, trying new positions, laughing at each other's ridiculous postures in the ship without bottom. The game was not a new one, but it was newly discovered and they reveled in its glories.

Month after month, they played their weightless games while the mecs implored them to come down. The constellations shifted in the visiports. New Sol grew larger and then smaller as the *Destiny* sped toward its unseen planet.

In the recroom, the mecvoices were only noises to the trio now, annoying noises that could be silenced, they discovered, with forceful kicks to the red-glowing panels.

When all the mecscreens had been smashed and the weightless games grew boring, Mary looked out the sunroom port. She was

surprised to see a rust-yellow sphere hanging in the sky. She watched it seriously for a time, frowning as it grew bigger and filled a third of her horizon. Then she called Eve and Joseph.

Mary pointed and they all stared in bewilderment. She opened her eyes wide and laughed with glee. "It's an apple," she said. "An apple in the sky!"

But Joseph wasn't fooled. Dimly he remembered something Adam had told him — something about a thing that would appear in the sky. He fought hard bringing it to conscious memory. Then he started aft toward the recroom. In there, under the couch, he remembered, was Adam. Adam would remind him what it was.

Suddenly Joseph smiled, his face flushed. He turned back to the sunroom port. He wouldn't have to ask Adam, after all. For a moment, he watched to make sure, while the huge yellow sphere swam closer.

"No, Mary," he said triumphantly. "It's not an apple in the sky. Apples are red. It's an orange!"

— NEIL P. RUZIC



# SURVIVAL TYPE

By J. F. BONE

*Score one or one million was not enough for  
the human race. It had to be all or nothing  
... with one man doing every bit of scoring!*

Illustrated by KIRBERGER



**A**RTHUR LANCEFORD slapped futilely at the sith buzzing hungrily around his head. The outsized eight-legged parody of a mosquito did a neat half roll and zoomed out of range, hanging motionless on vibrating wings a few feet away.

A raindrop staggered it momentarily, and for a fleeting second, Lanceford had the insane hope that the arthropod would fall out of control into the mud. If it did, that would be the end

of it, for Niobian mud was as sticky as flypaper. But the sith righted itself inches short of disaster, buzzed angrily and retreated to the shelter of a nearby broad-leaf, where it executed another half roll and hung upside down, watching its intended meal with avid anticipation.

Lanceford eyed the insect distastefully as he explored his jacket for repellent and applied the smelly stuff liberally to his face and neck. It wouldn't do much good. In an hour, his sweat



would remove whatever the rain missed—but for that time, it should discourage the sith. As far as permanent discouraging went, the repellent was useless. Once one of those eight-legged horrors checked you off, there were only two possible endings to the affair — either you were bitten or you killed the critter.

It was as simple as that.

He had hoped that he would be fast enough to get the sith before it got him. He had been bitten once already and the memory of those paralyzed three minutes while the bloodsucker fed was enough to last him for a lifetime. He readjusted his helmet, tucking its fringe of netting beneath his collar. The netting, he reflected gloomily, was like its owner—much the worse for wear. However, this trek would be over in another week and he would be able to spend the next six months at a comfortable desk job at the Base, while some other poor devil did the chores of field work.

**H**E LOOKED down the rain-swept trail winding through the jungle. Niobe—a perfect name for this wet little world. The Bureau of Extraterrestrial Exploration couldn't have picked a better, but the funny thing about it was that they hadn't picked it in the first place. Niobe was the native word for Earth, or perhaps

"the world" would be a more accurate definition. It was a coincidence, of course, but the planet and its mythological Greek namesake had much in common.

Niobe, like Niobe, was all tears—a world of rain falling endlessly from an impenetrable overcast, fat wet drops that formed a grieving background sound that never ceased, sobbing with soft mournful noises on the rubbery broad-leaves, crying with obese splashes into forest pools, blubbing with loud, dismal persistence on the sounding board of his helmet. And on the ground, the raindrops mixed with the loesslike soil of the trail to form a gluey mud that clung in huge pasty balls to his boots.

Everywhere there was water, running in rivulets of tear-streaks down the round cheeks of the gently sloping land—rivulets that merged and blended into broad shallow rivers that wound their mourners' courses to the sea. Trekking on Niobe was an amphibious operation unless one stayed in the highlands—a perpetual series of fords and river crossings.

And it was hot, a seasonless, unchanging, humid heat that made a protection suit an instrument of torture that slowly boiled its wearer in his own sweat. But the suit was necessary, for exposed human flesh was irresistible temptation to Niobe's bloodsuck-

ing insects. Many of these were no worse than those of Earth, but a half dozen species were deadly. The first bite sensitized. The second killed—anaphylactic shock, the medics called it. And the sixth was one of the deadly species.

Lanceford shrugged fatalistically. Uncomfortable as a protection suit was, it was better to boil in it than die without it.

He looked at Kron squatting beside the trail and envied him. It was too bad that Earthmen weren't as naturally repellent to insects as the dominant native life. Like all Niobians, the native guide wore no clothing—ideal garb for a climate like this. His white, hairless hide, with its faint sheen of oil, was beautifully water-repellent.

Kron, Lanceford reflected, was a good example of the manner in which Nature adapts the humanoid form for survival on different worlds. Like the dominant species on every intelligent planet in the explored galaxy, he was an erect, bipedal, mammalian being with hands that possessed an opposable thumb. Insofar as that general description went, Kron resembled humanity—but there were differences.

**S**QUATTING, the peculiar shape of Kron's torso and the odd flexibility of his limbs were not apparent. One had the ten-

dency to overlook the narrow-shouldered, cylindrical body and the elongated tarsal and carpal bones that gave his limbs four major articulations rather than the human three, and to concentrate upon the utterly alien head.

It jutted forward from his short, thick neck, a long-snouted, vaguely doglike head with tiny ears lying close against the hairless, dome-shaped cranium. Slitlike nostrils, equipped with sphincter muscles like those of a terrestrial seal, argued an originally aquatic environment, and the large intelligent eyes set forward in the skull to give binocular vision, together with the sharp white carnassal teeth and pointed canines, indicated a carnivorous ancestry. But the modern Niobians, although excellent swimmers, were land dwellers and ate anything.

Lanceford couldn't repress an involuntary shudder at some of the things they apparently enjoyed. Tastes differed—enormously so between Earthmen and Niobians.

There was no doubt that the native was intelligent, yet he, like the rest of his race, was a technological moron. It was strange that a race which had a well-developed philosophy and an amazing comprehension of semantics could be so backward in mechanics. Even the simpler of the BEE's mechanisms left the natives con-

fused. It was possible that they could learn about machinery, but Lanceford was certain that it would take a good many years before the first native mechanic would set up a machine shop on this planet.

Lanceford finished tucking the last fold of face net under his collar, and as he did so, Kron stood up, rising to his five-foot height with a curious flexible grace. Standing, he looked something like a double-jointed alabaster Anubis—wearing swim fins. His broad, webbed feet rested easily on the surface of the mud, their large area giving him flotation that Lanceford envied. As a result, his head was nearly level with that of the human, although there was better than a foot difference in their heights.

Lanceford looked at Kron inquiringly. "You have a place in mind where we can sleep tonight?"

"Sure, Boss. We'll be coming to hunthouse soon. We go now?"

"Lead on," Lanceford said, groaning silently to himself—another hunthouse with its darkness and its smells. He shrugged. He could hardly expect anything else up here in the highlands. Oh, well, he'd managed to last through the others and this one could be no worse. At that, even an airless room full of natives was preferable to spending a night outside.

And the sith wouldn't follow them. It didn't like airless rooms filled with natives.

He sighed wearily as he followed Kron along the dim path through the broadleaf jungle. Night was coming, and with darkness, someone upstairs turned on every faucet and the sheets of rain that fell during the day changed abruptly into a deluge. Even the semi-aquatic natives didn't like to get caught away from shelter during the night.

The three moved onward, immersed in a drumming wilderness of rain—the Niobian sliding easily over the surface of the mud, the Earthman plowing painfully through it, and the sith flitting from the shelter of one broadleaf to the next, waiting for a chance to feed.

**T**HE trail widened abruptly, opening upon one of the small clearings that dotted the rain-forest jungle. In the center of the clearing, dimly visible through the rain and thickening darkness, loomed the squat thatch-roofed bulk of a hunthouse, a place of shelter for the members of the hunters' guild who provided fresh meat for the Niobian villages. Lanceford sighed a mingled breath of relief and unpleasant anticipation.

As he stepped out into the clearing, the sith darted from

cover, heading like a winged bullet for Lanceford's neck. But the man was not taken by surprise. Pivoting quickly, he caught the iridescent blur of the bloodsucker's wings. He swung his arm in a mighty slap. The high-pitched buzz and Lanceford's gloved hand met simultaneously at his right ear. The buzz stopped abruptly. Lanceford shook his head and the sith fell to the ground, satisfactorily swatted. Lanceford grinned — score one for the human race.

He was still grinning as he pushed aside the fiber screen closing the low doorway of the hunt-house and crawled inside. It took a moment for his eyes to become accustomed to the gloom within, but his nose told him even before his eyes that the house was occupied. The natives, he thought wryly, must be born with no sense of smell, otherwise they'd perish from sheer propinquity. One could never honestly say that familiarity with the odor of a Niobian bred contempt — nausea was the right word.

The interior was typical, a dark rectangle of windowless limestone walls enclosing a packed-dirt floor and lined with a single deck of wooden sleeping platforms. Steeply angled rafters of peeled logs intersected at a knife-sharp ridge pierced with a circular smokehole above the firepit in the center of the room. Transverse

rows of smaller poles lashed to the rafters supported the thick broadleaf thatch that furnished protection from the rain and sanctuary for uncounted thousands of insects.

A fire flickered ruddily in the pit, hissing as occasional drops of rain fell into its heart from the smokehole, giving forth a dim light together with clouds of smoke and steam that rose upward through the tangled mass of greasy cobwebs filling the upper reaches of the rafters. Some of the smoke found its way through the smokehole, but most of it hung in an acrid undulating layer some six feet above the floor.

The glow outlined the squatting figures of a dozen or so natives clustered around the pit, watching the slowly rotating carcass of a small deerlike rodent called a sorat, which was broiling on a spit above the flames. Kron was already in the ring, talking earnestly to one of the hunters — a fellow-tribesman, judging from the tattoo on his chest.

To a Niobian, the scene was ordinary, but to Lanceford it could have been lifted bodily from the inferno. He had seen it before, but the effect lost nothing by repetition. There was a distinctly hellish quality to it — to the reds and blacks of the flickering fire and the shadows. He wouldn't have been particularly surprised if Sa-

tan himself appeared in the center of the firepit complete with horns, hoofs and tail. A hunt-house, despite its innocuousness, looked like the southeast corner of Hades.

**C**LUSTERED around the fire, the hunters turned to look at him curiously and, after a single eye-filling stare, turned back again. Niobians were almost painfully polite. Although Earthmen were still enough of a curiosity to draw attention, one searching look was all their customs allowed. Thereafter, they minded their own business. In some ways, Lanceford reflected, native customs had undeniable merit.

Presently Kron rose from his place beside the fire and pointed out two empty sleeping platforms where they would spend the night. Lanceford chose one and sank wearily to its resilient surface. Despite its crude construction, a Niobian sleeping platform was comfortable. He removed his pack, pulled off his mud-encrusted boots and lay back with a grunt of relaxation. After a day like this, it was good to get off his feet. Weariness flowed over him.

He awoke to the gentle pressure of Kron's hand squeezing his own. "The food is cooked," the Niobian said, "and you are welcomed to share it."

Lanceford nodded, his stomach

crawling with unpleasant anticipation. A native meal was something he would prefer to avoid. His digestive system could handle the unsavory mess, but his taste buds shrank from the forthcoming assault. What the natives classed as a delicate and elusive flavor was sheer torture to an Earthman.

Possibly there was some connection between their inefficient olfactory apparatus and their odd ideas of flavor, but whatever the physical explanation might be, it didn't affect the fact that eating native food was an ordeal. Yet he couldn't refuse. That would be discourteous and offensive, and one simply didn't offend the natives. The BEE was explicit about that. Courtesy was a watchword on Niobe.

He took a place by the fire, watching with concealed distaste as one of the hunters reached into the boiling vat beside the firepit with a pair of wooden tongs and drew forth the native conception of a hors d'oeuvre. They called it vorkum—a boiled sorat paunch stuffed with a number of odorous ingredients. It looked almost as bad as it smelled.

The hunter laid the paunch on a wooden trencher, scraped the greenish scum from its surface and sliced it open. The odor poured out, a gagging essence of decaying vegetables, rotten eggs and overripe cheese.



Lanceford's eyes watered, his stomach tautened convulsively, but the Niobians eyed the reeking semi-solid eagerly. No meal on Niobe was considered worthy of the name unless a generous helping of vorkum started it off.

**A**N ENTREE like that could ruin the most rugged human appetite, but when it was the forerunner of a main dish of highly spiced barbecue, vorkum assumed the general properties of an emetic. Lanceford grimly controlled the nausea and tactfully declined the greasy handful which Kron offered. The Niobian never seemed to learn. At every meal they had eaten during their past month of travel on Niobe, Kron had persistently offered him samples of the mess. With equal persistence, he had refused. After all, there were limits.

But polite convention required that he eat something, so he took a small portion of the barbecued meat and dutifully finished it. The hunters eyed him curiously, apparently wondering how an entity who could assimilate relatively untasty sorat should refuse the far greater delicacy of vorkum. But it was a known fact that the ways of Earthmen were strange and unaccountable.

The hunters didn't protest when he retired to his sleeping platform and the more acceptable concen-

trates from his pack. His hunger satisfied, he lay back on the resilient vines and fell into a sleep of exhaustion. It had been a hard day.

Lanceford's dreams were unpleasant. Nightmare was the usual penalty of sitting in on a Niobian meal and this one was worse than usual. Huge siths, reeking of vorkum, pursued him as he ran naked and defenseless across a swampy landscape that stretched interminably ahead. The clinging mud reduced his speed to a painful crawl as he frantically beat off the attacks of the blood-suckers.

The climax was horror. One of the siths slipped through his frantically beating hands and bit him on the face. The shocking pain of the bite wakened him, a cry of terror and anguish still on his lips.

He looked around wildly. He was still in the hunthouse. It was just a dream.

He chuckled shakily. These nightmares sometimes were too real for comfort. He was drenched with sweat, which was not unusual, but there was a dull ache in his head and the hot tense pain that encompassed the right side of his face had not been there when he had fallen asleep.

He touched his face with a tentative finger, exploring the hot puffiness and the enormously swollen ear with a gentle touch. It

was where he had struck the sith, but surely he couldn't have hit that hard.

He gasped, a soft breath of dismay, as realization dawned. He had smashed the sith hard enough to squeeze some of the insect's corrosive body juices through his face net—and they had touched his skin! That wouldn't normally have been bad, but the sith bite he had suffered a week ago had sensitized him. He was developing an anaphylactic reaction—a severe one, judging from the swelling.

That was the trouble with ex-

ploration; one occasionally forgot that a world was alien. Occasionally danger tended to recede into a background of familiarity—he had smashed the sith before it had bitten him, so therefore it couldn't hurt him. He grimaced painfully, the movement bringing another twinge to his swollen face. He should have known better.

He swore mildly as he opened his Aid Kit and extracted a sterile hypo. The super-antihistamine developed by the Bureau was an unpredictable sort of thing. Sometimes it worked and sometimes it didn't. He removed the screw cap



that sealed the needle and injected the contents of the syringe into his arm. He hoped that this was one of the times the drug worked. If it wasn't, he reflected grimly, he wouldn't be long for this world.

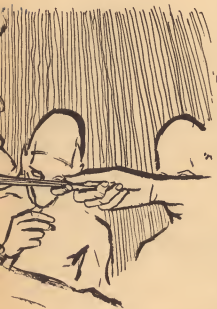
He sighed and lay back. There wasn't anything more to do now. All he could do was wait and see if the anti-allergin worked.

**T**HE Bureau of Extraterrestrial Exploration had discovered Niobe barely three years ago, yet already the planet was famous not only for its peculiar climate,

but also for the number of men who had died upon its watery surface. Knowledge of this planet was bought with life, grim payment to decrease the lag between discovery and the day men could live and work on Niobe without having to hide beneath domes or behind protection suits. Lanceford never questioned the necessity or the inevitable price that must be paid. Like every other BEE agent, he knew that Niobe was crash priority—a world that *had* to be understood in minimum time.

For Niobe was a made to order herbarium for a swampland plant called viscaya. The plant was originally native to Algon IV, but had been spread to practically every suitable growth center in the Galaxy. It was the source of a complex of alkaloids known as gerontin, and gerontin had the property of tripling or quadrupling the normal life span of mammals.

It was obvious that viscayaculture should have a tremendous distribution throughout the Confederation worlds. But unfortunately the right conditions existed in very few places in the explored galaxy. Despite the fact that most life is based on carbon, oxygen and water, there is still very little free water in the Galaxy. Most planets of the Confederation are semi-arid, with the outstanding exceptions of Terra and Lyrane.



But these two worlds were the seats of human and humanoid power for so long that all of their swampland had been drained and reclaimed centuries ago.

And it was doubly unfortunate that gerontin so far defied synthesis. According to some eminent chemists, the alkaloid would probably continue to do so until some facet of the Confederation reached a Class VIII culture level. Considering that Terra and Lyrane, the two highest cultures, were only Class VII, and that Class level steps took several thousands of years to make, a policy of waiting for synthesis was not worth considering.

The result was that nobody was happy until Niobe was discovered. The price of illicit gerontin was astronomical and most of the Confederation's supply of the drug was strictly rationed to those whom the government thought most valuable to the Confederation as a whole. Of course, the Confederation officialdom was included, which caused considerable grumbling. In the nick of time, Niobe appeared upon the scene, and Niobe had environment in abundance!

The wheels of the Confederation began to turn. The BEE was given a blank check and spurred on by a government which, in turn, was being spurred on by the people who composed it. The ex-

ploration of Niobe proceeded at all possible speed. With so many considerations weighed against them, what did a few lives matter? For the sake of the billions of humanoids in the Confederation, their sacrifice was worthwhile even if only a few days or hours were saved between discovery and exploitation.

**L**ANCEFORD groaned as a violent pain shot through his head. The anti-allergin apparently wasn't going to work, for it should have had some effect by now. He shrugged mentally—it was the chance one took in this business. But he couldn't say that he hadn't been warned. Even old Sims had told him, called him a unit in the BEE's shortcut trial and error scheme—an error, it looked like now.

Seemed rather silly—a Class VII civilization using techniques that were old during the Dark Ages before the Atomic Revolution, sending foot parties to explore a world in the chance that they might discover something that the search mechs missed—anything that would shorten the lag time. It was incomprehensible, but neither Sims nor the BEE would do a thing like this without reason. And whatever it was, he wasn't going to worry about it. In fact, there wasn't much time left to worry. The reaction was ob-

servably and painfully worse.

It was important that the news of his death and the specimens he had collected get back to Base Alpha. They might have value in this complex game Alvord Sims was playing with men, machines and Niobe. But Base Alpha was a good hundred miles away and, in his present condition, he couldn't walk a hundred feet.

For a moment, he considered setting up the powerful little transmitter he carried in his pack, but his first abortive motion convinced him it was useless. The blinding agony that swept through him at the slightest movement left no doubt that he would never finish the business of setting up the antenna, let alone send a message.

It was a crime that handie-talkies couldn't be used here on Niobe, but their range, limited at best, was practically nonexistent on a planet that literally seemed to be one entire "dead spot." A fixed-frequency job broadcasting on a directional beam was about the only thing that could cover distance, and that required a little technical know-how to set up the antenna and focus it on Base Alpha. There would be no help from Kron. Despite his intelligence, the native could no more assemble a directional antenna than spread pink wings and fly.

There was only one thing to do

—get a note off to Sims, if he could still write, and ask Kron to deliver the note and his pack to the Base.

He fumbled with his jacket, and with some pain produced a stylus and a pad. But it was difficult to write. Painful, too. Better get Kron over here while he could still talk and tell him what he wanted.

The stylus slipped from numb fingers as Lanceford called hoarsely, "Kron! Come here! I need you!"

**K**RON looked down compassionately at the swollen features of the Earthman. He had seen the kef effect before, among the young of his people who were incautious or inexperienced, but he had never seen it among the aliens. Surprisingly, the effects were the same—the livid swellings, the gasping breath, the pain. Strange how these foreigners reacted like his own people.

He scratched his head and pulled thoughtfully at one of his short ears. It was his duty to help Lanceford, but how could he? The Earthman had denied his help for weeks, and Niobians simply didn't disregard another's wishes. Kron scowled, the action lending a ferocious cast to his doglike face. Tolerance was a custom hallowed by ages of practice. It went to extremes—even with

life at stake, a person's wishes and beliefs must be respected.

Kron buried his long-snouted head in his hands, a gesture that held in it all the frustration which filled him.

The human was apparently resolved to die. He had told Kron his last wishes, which didn't include a request for help, but merely to get his pack back to the others in their glass dome. It was astonishing that such an obviously intelligent species should have so little flexibility. They didn't understand the first principles of adaptation. Always and forever, they held to their own ways, trying with insensate stubbornness to mold nature to their will—and when nature overcome their artificial defenses, they died, stubborn, unregenerate, inflexible to the end. They were odd, these humans—odd and a little frightening.

Lanceford breathed wheezily. The swelling had invaded the inner tissues of his throat and was beginning to compress his windpipe. It was uncomfortable, like inhaling liquid fire, and then there was the constant desire to cough and the physical inability to do so.

"Dirty luck," he whispered. "Only a week more and I'd have had it made—the longest trek a man's made on this benighted planet."

Kron nodded, but then belatedly realized that the human was muttering to himself. He listened. There might be something important in these dying murmurings, something that might explain their reasons for being here and their strange driving haste that cared nothing for life.

"It's hard to die so far from one's people, but I guess that can't be helped. Old Sims gave me the score. Like he said, a man doesn't have much choice of where he dies in the BEE."

"You don't want to die!" Kron exploded.

"Of course not," Lanceford said with weak surprise. He hadn't dreamed that Kron was nearby. This might well destroy the Imperturbable Earthman myth that the BEE had fostered.

"Not even if it is in accord with your customs and rituals?"

"What customs?"

"Your clothing, your eating habits, your ointments—are these not part of your living plan?"

Despite the pain that tore at his throat, Lanceford managed a chuckle. This was ridiculous. "Hell, no! Our only design for living is to stay alive, particularly on jobs like this one. We don't wear these suits and repellent because we *like* to. We do it to stay alive. If we could, we'd go around nearly as naked as you do."

"Do you mind if I help you?"

Kron asked diffidently. "I think I can cure you." He leaned forward anxiously to get the man's reply.

"I'd take a helping hand from the devil himself, if it would do any good."

Kron's eyes were brilliant. He hummed softly under his breath, the Niobian equivalent of laughter. "And all the time we thought—" he began, and then broke off abruptly. Already too much time was wasted without losing any more in meditating upon the ironies of life.

He turned toward the firepit, searched for a moment among the stones, nodded with satisfaction and returned to where Lanceford lay. The hunthouse was deserted save for himself and the Earthman. With characteristic Niobian delicacy, the hunters had left, preferring to endure the night rain than be present when the alien died. Kron was thankful that they were gone, for what he was about to do would shock their conservative souls.

**L**ANCEFORD was dimly conscious of Kron prying his swollen jaws apart and forcing something wet and slippery down his throat. He swallowed, the act a tearing pain to the edematous membranes of his gullet, but the stuff slid down, leaving a trail of fire in its wake. The act triggered

another wave of pain that left him weak and gasping. He couldn't take much more of this. It wouldn't be long now before the swelling invaded his lungs to such a degree that he would strangle. It wasn't a pleasant way to die.

And then, quite suddenly, the pain eased. A creeping numbness spread like a warm black blanket over his outraged nervous system. The stuff Kron had given him apparently had some anesthetic properties. He felt dimly grateful, even though the primitive native nostrum would probably do no good other than to ease the pain.

The blackness went just far enough to paralyze the superficial areas of his nervous system. It stopped the pain and left him unable to move, but the deeper pathways of thought and reason remained untouched. He was conscious, although no external sensation intruded on his thoughts. He couldn't see Kron—the muscles that moved his eyes were as paralyzed as the other muscles of his body and the native was outside his field of vision—but somehow he knew exactly what the Niobian was doing. He was washing mucus from his hands in a bowl of water standing beside the fire pit *and he was wondering wryly whether forced feeding was on the list of human tabus!*

Lanceford's mind froze, locked in a peculiar contact that was

more than awareness. The sensation was indescribable. It was like looking through an open door into the living room of a stranger's house.

He was aware of the incredible complexity and richness of Kron's thoughts, of oddly sardonic laughter, of pity and regret that such a little thing as understanding should cause death and suffering through its lack, of bewildered admiration for the grim persistence of the alien Earthmen, mixed with a wondering curiosity about what kept them here—what the true reasons were for their death-defying persistence and stubbornness—of an ironic native paraphrase for the Terran saying, "Every man to his own taste," and a profound speculation upon what fruits might occur from true understanding between his own race and the aliens.

It was a strangely jumbled kaleidoscopic flash that burned across the explorer's isolated mind, a flash that passed almost as soon as it had come, as though an invisible door had closed upon it.

But one thing in that briefly shocking contact stood out with great clarity. The Niobians were as eager as the BEE to establish a true contact, a true understanding, for the message was there, plain in Kron's mind that he was thinking not only for himself but

for a consensus of his people, a decision arrived at as a result of discussion and thought—a decision of which every Niobian was aware and with which most Niobians agreed.

**T**HE magnitude of that thought and its implications staggered Lanceford's imagination.

After two years of exploration and contact with the dominant race of this planet, the BEE still knew literally nothing about the sort of people with whom they were dealing. This instantaneous, neural contact proved that. Equated against the information dished out in Basic Training, it merely emphasized the fact that the BEE was grossly ignorant.

Anthropological Intelligence had a lot to account for—the job they'd done so far could have been performed by low-grade morons. In wishing to avoid the possibility of giving offense, in hiding behind a wall of courtesy and convention, there had been no contact worthy of the name. Yet here was the possibility of a rapport that could be closer than any which existed between any races in the Galaxy.

Lanceford groaned with silent frustration. To learn this when he was dying was the bitterest of ironies. In any other circumstances, the flash of insight could be parlayed into a key which



might unlock the entire problem of Niobian relationships.

Bitterly he fought against the curtain of unconsciousness that closed down on him, trying by sheer will to stay awake, to make some move that could be interpreted, to leave some clue to what he had learned.

It was useless. The darkness closed in, inexorable and irresistible.

**ARTHUR LANCEFORD** opened his eyes, surprised that he was still alive. The pain was gone from his face and the swelling had subsided. He grinned with relief—his luck had held out.

And then the relief vanished in a wave of elation. He held the key. He knew the basics for mutual understanding. And he would be alive to deliver them to the specialists who could make them operate.

He chuckled. Whatever the cure was — the BEE drug, Kron's treatment, whatever it was, it didn't matter. The important thing was that he was going to live.

He wondered whether that flash of insight just before unconsciousness had been real or a figment of delirium. It could have been either, but Lanceford clung to the belief that the contact was genuine. There was far too much re-

vealed in that sudden flash that was entirely alien to his normal patterns of thought.

He wondered what had triggered that burst of awareness. The BEE drug, the stuff Kron had given him, the poison of the sith and the histamines floating around in his system—it could have been any one of a number of things, or maybe a complex of various factors that had interacted to make him super-receptive for an instant of time.

It was something that would have to be reported and studied with the meticulous care which the BEE gave to any facet of experience that was out of the ordinary. A solution might possibly be found, or the whole thing might wind up as one of those dead ends that were so numerous in Exploration work. But that was out of his field and, in consequence, out of his hands. His specialty wasn't parapsychological research.

Kron was standing beside his bed, long doglike face impassive, looking at him with pleased satisfaction. Behind him, a group of natives were clustered around the cooking fire. It was as if no time had passed since the allergy struck—but Lanceford knew differently. Still, the lost time didn't matter. The bright joy that he was going to live transcended such unimportant things.

"Looks like you won't have to

bury me after all," Lanceford said happily.

He stretched his arms over his head. He felt wonderful. His body was cool and comfortably free of the hot confinement of the protection suit. He did a slow horrified doubletake as he realized that he was lying on the sleeping platform practically naked—a tempting hors d'oeuvre for the thousand and one species of Niobe's biting insects.

"Where's my suit?" he half shouted.

**K**RON smiled. "You don't need it, friend Lanceford. If you will notice, you are not bitten. Nor will you be."

"Why not?"

Kron didn't answer. It wasn't the proper time, and the euphoria that he and the Earthman were enjoying was too pleasant to shatter.

Lanceford didn't press the matter. Apparently Kron knew what he was talking about. Lanceford had been watching one particularly vicious species of biting fly hover above his body. The insect would approach, ready to enjoy a mandible full of human epidermis, but, about six inches from his body, would slow down and come to a stop, hanging frustrated in midair. Finally the fly gave up and flew off into the darkness of the rafters. Lanceford hoped that

one of the spiders would get it—but he was convinced. Whatever happened to him while he was unconscious had made him as insect-repellent as the Niobians.

The smell of cooking came from the firepit and, incredibly, it smelled good.

Lanceford looked startledly at Kron. "I'm hungry."

"An excellent sign," Kron replied. "You are nearly cured. Soon you will be able to finish this trek."

"Incidentally," Lanceford said, "for the first time since I have been out on this showerbath world of yours, you're cooking something that smells fit to eat. I think I'd like to try it."

Kron's eyebrows rose and he hummed softly under his breath. This was something entirely unexpected—an added delight, like the flavor of komal in a sorat stew. He savored it slowly, enjoying its implications.

"What is it?" Lanceford persisted.

"A dish called akef," Kron said. The name was as good as any and certainly described the effect well enough.

**T**HE last hundred miles had been a breeze. Lanceford stood at the edge of the clearing, looking across the planed-off landscape to the shimmering hemispherical bulk of Base Alpha, glis-

tening like a giant cabochon jewel under Niobe's dark sky. Without the protection suit to slow him down and hamper his movements, what would have been a week's trip had been shortened to four days.

In a few minutes, he would be back among his own kind — and he wasn't sure whether he was glad or sorry. Of course, there was a certain satisfaction in bringing back a first-class discovery — perhaps the greatest in the short history of Niobian exploration — but there was a stigma attached to the way it had been found. It wouldn't be easy to confess that it had practically been forced upon him, but it would have to be done. It would have been much nicer to have found the answer by using his head. There would have been some really deserved prestige in that.

HE sighed and turned to Kron. "Farewell, friend," he said soberly, "and thanks."

"We are even," Kron replied. "You saved my life from a roka and I saved yours from the sith. The scales are balanced."

Lanceford blinked. He had forgotten that incident where he had shot the big catlike animal shortly after the 'copter had dropped them for the start of their journey back to Base. Apparently it was after Kron — or at least the native

had thought so. Lanceford grinned ruefully. Score another point for blind luck.

"But, Kron, it's not that easy. You have given me a secret of your people and I shall have to tell it to mine."

"I expected that you would. Besides, it is no secret. Even our children know its composition and how to make it. We have never held it from you. You simply wouldn't accept it. But it is about time, friend Lanceford, that your race began learning something of Niobe if they wish to remain here — and it is about time that we began learning something about you. I think that there will be some rather marked changes in the future. And in that regard, I leave you with the question of whether a civilization should be judged entirely upon its apparent technological achievements."

"I —" Lanceford began.

"You have learned how we avoid the insects," Kron continued, maneuvering past the abortive interruption, "and perhaps someday you will know the full answer to my question. But in the meantime, you and your kind will be free to move through our world, to learn our ways, and to teach us yours. It should be a fair exchange."

"Thanks to akef," Lanceford said fervently, "we should be able to do just that."

KRON smiled. "You have used the drug enough to have overcome the mental block that prevented you from naming it before. The word I coined from your own language of science is no longer necessary."

"I suppose not, but it's pleasanter to think of it that way."

"You Earthmen! Sometimes I wonder how you ever managed to achieve a civilization with your strange attitudes toward unpleasant facts." Kron smiled broadly, relishing the memory of his deception and Lanceford's shocked awakening to the truth. "I hope," he continued, "that you have forgiven my little deceit and the destruction of your protective clothing."

"Of course. How could I do otherwise? It's so nice to be rid of that sweatbox that I'd forgive anything." Lanceford frowned. "But there's one thing that puzzles me. How did you disguise the stuff?"

"I didn't," Kron replied cryptically. "You did." He turned away and, with characteristic Niobian abruptness, walked off into the jungle. His job was done and natives were never ones to dally with leavetaking, although their greetings were invariably ceremonious.

Lanceford watched until the native was out of sight and then walked slowly across the clearing

toward the dome. He had learned a lot these past few days, enough to make him realize that his basic training had been so inadequate as to be almost criminal. It was lacking in many of the essentials for survival and, moreover, was slanted entirely wrong from a psychological point of view.

Sure, it was good enough to enable a man to get along, but it seemed to be particularly designed to deny the fact that the natives obviously possessed a first-rate culture of their own. It didn't say so directly, but the implications were there. And that was wrong. The natives possessed a civilization that was probably quite as high as the one Terra possessed. It was simply oriented differently. One thing was certain—the Confederation wasn't going to expropriate or exploit *this* planet without the natives' consent. It would be suicide if they tried.

He grinned. Actually there would be no reason for such action. It was always easier to deal with advanced races than to try to conquer or educate primitive ones. Kron had the right idea—understanding, exchange, appreciation—Confederation culture for Niobian. It would make a good and productive synthesis.

Still grinning, Lanceford opened the airlock and stepped inside, ignoring the pop-eyed guard who



eyed his shorts and sandals with an expression of incredulous disbelief.

**A**LVORD SIMS, Regional Director, Niobe Division BEE, looked up from his desk and smiled. The smile became a nose-wrinkling grimace as Lanceford swung the pack from his shoul-

ders and set it carefully on the floor.

"Glad to see that you made it, Lanceford," Sims said. "But what's that awful smell? You should have done something about it. You stink like a native."

"All the baths in the world won't help, sir," Lanceford said woodenly.

He was tired of the stares and the sniffs he had encountered since he had entered the base. In his present condition, a fellow-human smelled as bad to him as he did to them, but he didn't complain about it and he saw no reason why they should. Humanity should apply more courtesy and consideration to members of their own species.

"It's inside me," he explained. "My metabolism's changed. And incidentally, sir, you don't smell so sweet yourself."

Sims sputtered for a moment and then shrugged. "Perhaps not," he admitted. "One can't help sweating in this climate even with air-conditioning."

"It's the change inside me," Lanceford said. "I suppose it'll wear off in time, once I've been on a normal diet. But I didn't think that was too important in view of the information I have. I've learned something vital, something that you should know at once. That's why I'm here."

"That's decent of you," Sims replied, "but an interoffice memo would have served just as well as a personal visit. My stomach isn't as good as it once was. Ulcers, you know."

"The executive's disease," Lanceford commented.

Sims nodded. "Well, Arthur, what did you find that was so important?"

"That we've been fools."

Sims sighed. "That's nothing new. We've been fools since the day we left Earth to try and conquer the stars."

"That's not what I mean, sir. I mean that we've been going at this Niobe business the wrong way. What we need is to understand the natives, instead of trying to understand the planet."

"Out of the mouths of babes and probationers—" Sims said with gentle irony.

"It pays off," Lanceford replied doggedly. "Take my case. I've found out why the natives are insect-proof!"

"That's a new wrinkle. Can you prove it?"

"Certainly. I came the last hundred miles in shorts."

"What happened to your suit?"

"Kron destroyed it accidentally."

"Accidentally — hah!" Sims snorted. "Niobians never do things accidentally."

**L**ANCEFORD looked sharply at the director. The observation carried a wealth of implications that his sharpened senses were quick to grasp. "Then you know the natives aren't simple savages, the way we were taught in Basic Training?"

"Of course! They're a non-technical Class V at the very least — maybe higher. Somehow they've

never oriented their civilization along mechanical lines, or maybe they tried it once and found it wanting. But no one in the upper echelons has ever thought they were stupid or uncivilized."

"Then why —"

"Later," Sims said. "You're entitled to an explanation, but right now I'd appreciate it if you'd finish your statement. What makes the natives insect-proof?"

"Vorkum."

"That gunk?"

"That's the repellent."

"In more ways than one," Sims said.

"It's not so bad after you get used to it. It just smells awful at first."

"That's an understatement, if I ever heard one."

"**P**ERHAPS the lab can analyze it and find the active principle," Lanceford said hopefully.

"If they do, I'll bet it is distilled quintessence of skunk," Sims replied gloomily. "I'll be willing to bet that our native friends tried that trick ages ago and gave it up for a bad job. They're pretty fair biochemists as well as being philosophers."

"Could be," Lanceford said thoughtfully. "I never thought of that."

"You'd better start thinking all the time. These lads are *smart*.

Why do you think we have this complicated rigmarole about native relations and respect? Man, we're running scared. We don't want to lose this planet, and anything less than the kid-glove treatment would be sheer suicide until we learn how far we can go. These natives have an organization that'd knock your eye out. I didn't believe it myself until I got the proof. As you learn more about it, you'll understand what I mean. We're dealing with an ecological *unit* on this planet!"

"But I thought —"

"That you were here to explore a primitive world?"

"Wasn't that what I was trained for?"

"No. We can do that sort of thing with a couple of geodetic cruisers. We don't need men trekking through the jungles to assay a world's physical resources. That business went out of date during the Dark Ages. There's a better reason than that for these treks."

"Like what?"

"You asked the question. Now answer it," Sims said. "You have enough data."

Lanceford thought for a moment. "I can see one reason," he said slowly.

"Yes?"

"The trek could be a test. It could be used to determine whether or not the probationer was a survival type — a sort of

final examination before he's turned loose in a responsible job here in the BEE."

SIMS smiled. "Bull's-eye! It's part of the speedup—a pretty brutal part, but one that can't be helped if we want to get this planet in line quickly enough to stop the riot that's brewing in the Confederation. It's as much for Niobe's good as ours, because the Confederation wants that gerontin like an alcoholic wants another drink—and they're not going to wait for normal exploration and development. That's why the treks. It's a tough course. Failure can and often does mean death. Usually we can pull a misfit out in time, but not always. If you live through the trek and we don't have to pull you out, though, you've proved yourself a survival type—and you're over the first hurdle.

"Then we check with your guide and anyone you happen to meet en route. The natives are very cooperative about such things. If you pass their evaluation, you're ready to join the club. It's been forming ever since we landed here two years ago, but it's still pretty exclusive. It's the nucleus of the BEE's mission here, the one that'll get things rolling with the gerontin plantations. We'll know about you in a few more minutes after the Cyb Unit

gets through processing your data." Sims grinned at the thunderstruck youngster.

Lanceford nodded glumly. "I'll probably fail. I sure didn't use my head. I never caught the significance of the trek, I failed to deduce the reason for the insect-repellent qualities of the natives, and I missed the implications of their culture until I had almost reached Base. Those things are obvious. Any analytical brain would have figured them out."

"They're only obvious when you know what you're looking for," Sims said gently. "Personally, I think you did an excellent job, considering the handicaps you have faced. And the discovery of the vorkum was masterly."

Lanceford blushed. "I hate to admit it, but Kron literally shoved the stuff down my throat."

"I didn't mean the *method* by which you learned that vorkum was the stuff we've been searching for," Sims said. "I meant the *results* you obtained. Results are what count in this business. Call it luck if you wish, but there is more to it than that. Some people are just naturally lucky and those are the sort we need here. They're survival types. A lot is going to depend on having those so-called lucky people in the right places when we settle Niobe's status in the Confederation."

He paused as the message tube



beside his desk burped a faint hiss of compressed air and a carrier dropped out into the receiving basket.

"Somehow I think that this is your membership card to the club, he said. He read it, smiled, and passed the sheet to Lanceford. "And now, Arthur, before I appoint you as a Niobe Staff member, I'd like to know one thing."

"What is that, sir?"

"Just why in the name of hell did you bring that pack in here with you? I've just realized where that smell is coming from!"

"I didn't dare leave it anywhere," Lanceford said. "Someone might have thrown it down a disposal chute."

"I wouldn't blame them. That's vorkum you have in there, isn't it?"

Lanceford nodded. "Yes, sir. I didn't want to lose it."

"Why not? We can always get more from the natives if we need it."

"I know that, sir. We can, but this is all I'll get for the next six months, and if I ration myself carefully, it might last that long. You see, sir, it's mildly habit-forming — like cigarettes — and one gets accustomed to it. And besides, you really don't know what flavor is until you've tried vorkum on chocolate."

— J. F. BONE

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF *Galaxy Science Fiction* published monthly at New York, N. Y. for Oct. 1, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Robert M. Guinn, 421 Hudson Street (14), New York City; Editor, Horace L. Gold, 421 Hudson Street (14) New York City; Managing Editor, None; Business Editor, None.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) *Galaxy Publishing Corp.*, 421 Hudson Street (14), New York City; Robert M. Guinn (Sole Stockholder), 421 Hudson Street (14), New York City.

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/s/ ROBERT M. GUINN

Sworn to and subscribed before me this 11th day of September, 1956.

[SEAL]

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**GALAXY'S**

# 5 Star Shelf

*TO LIVE FOREVER* by Jack Vance. Ballantine Books, N. Y., \$2.00

**A**FTER a bewilderingly obscure opening, Vance settles down to a frighteningly logical depiction of a civilization based on immortality as the supreme reward for a life of achievement.

Unfortunately, immortality is for the few because cataclysmic wars have reduced the world to barbarism except for the smallish community of Clarges, and food supply and population are kept in strict balance. For each new

Amaranth, 2,000 ordinary mortals are visited by the Assassins. Since war and violence have been outlawed, the only areas of strife are in space flight and the struggle for immortality.

Gavin Waylock is the angry protagonist, unjustly accused of deliberate murder and therefore deprived of his immortality. For seven years, he has hidden until, being declared legally dead, he is free to strive again for eternal life.

The sick, inbred society of Vance's imagination comes fully alive, even though his characters remain mere symbols.

**ATOMIC QUEST** by Arthur Holly Compton. Oxford University Press, N. Y., \$5.00

**A**T THE time that Hiroshima literally burst into the awareness of the world, the general reaction was one of amazement that such an immense undertaking could have been achieved with such secrecy. More accustomed to effective security, we know that other wonders — and horrors — are under equally tight wraps today.

Dr. Compton's book, never too late to be welcome, treats with the now familiar names — Fermi, Oppenheimer, Urey, Conant, Lawrence, etc., and their often frustrated approach to the conquest of the atom.

Though Dr. Compton's treatment keeps tending toward the textbookish, the drama and tension of those historic days come through undiluted.

**THE IMMORTAL STORM** by Sam Moskowitz. Atlanta Science Fiction Organization Press, Ga., \$5.00

**D**R. COMPTON'S *Atomic Quest*, primarily a personal account of the individuals involved in the search for atomic power, is underplayed, being overwhelmed by the enormity of the subject. In contrast, Moskowitz's

book, pretentious title and all, is an account of the petty feuds of a handful of S-F fans in the dark days of the '30s; depressing events during Depression days.

The articulate handful monopolized the magazine letter columns and carried on their pigmy warfare to the despair of actual readers. Fortunately, most of these petulant warriors have since grown up — but their historian is still leading their ghostly legions in battles that are more real than today to him. The miracle is that S-F survived even the love of its most rabid fans. Direct from ASFO Press, 713 Coventry Rd., Decatur, Ga.

**MAN IN SEARCH OF HIS ANCESTORS** by André Senet. McGraw-Hill Book Co., Inc., \$5.50

**P**ERHAPS as much time has been devoted to the question "From Whence?" as to the more immediate "Whither?" Senet is a most beguiling Whencer. His book takes on the intensity of a detective yarn as he ranges over the entire planet, following the finds of eminent paleontologists tracing the origins of Man further and further into antiquity.

Far from adhering to this narrow field of investigation, however, Senet takes the entire scope of terrestrial life, marine and land, under scrutiny. His chapter

on the fabulous coelecanth and the assault on the continents by the sea creatures is the tautest kind of narration.

**CREATURES OF THE DEEP SEA** by Klaus Guenther and Kurt Deckert. Charles Scribner's Sons, N. Y., \$3.95

**W**HEN it comes to bug-eyed monsters, our planet has more than its share in the depths of the seven seas. The pages of this startling tome are a-crawl with illustrations of creatures that any S-F artist would be tickled to own.

The authors, zoölogists at the University of Berlin, have compiled an unusual book devoted to the benthal or abyssal bottom dweller and the archibenthal or continental slope inhabitant, as well as the bathypelagic swimmers. By sinking to such depths, these scientists lift science enormously.

**FROM THE TABLETS OF SUMER** by Samuel Noah Kramer. The Falcon's Wing Press, Colo., \$5.00

**U**NTIL 100 years ago, no one had ever heard of Sumer or Sumerians. That they are now known to have been unique in many respects is due to the fastidious labors of specialized archeologists known as Sumerolo-

gists. Dr. Kramer takes a humorous view of his calling, referring to himself as a pinpoint historian, concerned with the history of the tiny triangle formed by the Tigris and Euphrates Rivers only up to the time of Alexander the Great.

The Sumerians had evolved a high civilization as early as 3,000 B.C., with many historical firsts. They organized the first schools, literary debates, library catalogues; assembled the first Pharmacopoeia, "Farmer's Almanac" and bicameral congress and achieved the first recorded case of tax reduction. As you can see, a truly remarkable people.

**CLOUDS, RINGS AND CROCODILES** by H. Percy Wilkins. Little, Brown and Co., Boston, \$3.00

**A** BUSY person is Dr. Wilkins. Author of this year's monumental *The Moon* with Patrick Moore as well as a new work on telescopes to be reviewed next month, Wilkins has here a study of the Solar System on a juvenile plane.

After theoretical construction of a rocket in orbit, Dr. Wilkins sets the reader off on a journey round the System. He has interjected accidents and problems to add spice to the story. Possibly he has strained too hard in the interest of interest, but I suspect that youngsters will disagree.

**WORLDS WITHOUT END** by Isabel Barclay. Doubleday & Co., Inc., \$3.95

**MISS BARCLAY'S** subject is exploration from 2,000 B.C. to today. It has taken 4,000 years for Man to know his Earth. From the time of Hannu the Egyptian, the earliest known explorer who discovered the land of Punt, to the present, mankind has been driven to explore the unknown. All the great explorers are in this book, from the Phoenicians to the Portuguese; Alexander the Great, Marco Polo, Amundsen, Peary.

Their stories are excellent examples of Man's restlessness but, as Miss Barclay says, "Where men once asked, 'What lies beyond the Great Green Sea?' today they ask, 'How soon shall we get to Mars?'"

This book will have your teenager packing up to leave home.

**BEYOND DOUBT** by Mary LeBeau. Harper & Brothers, N. Y., \$3.00

**MARY LEBEAU** is the pseudonym of the wife of a government official. According to her, she has contacted certain beings beyond the veil, one of whom she calls Trust and who gives her Godly advice. This book is an account of her psychic experiences, but there is no documentation, so

we must accept "Mrs. LeBeau's" story on Trust.

**MYSTERIES OF ANCIENT SOUTH AMERICA** by Harold T. Wilkins. The Citadel Press, N. Y., \$3.50

**WHEREAS** H. P. Wilkins elsewhere in this column indulges in an extraterrestrial flight of fancy, his almost-namesake, H. T. Wilkins, has his feet in the clouds right here on solid ground. He postulates a race of Atlantean-Brazilians who have left artifacts dating from 20,000 B.C.

If this be so, and Mr. Wilkins smokescreens the reader with masses of innuendo, then somehow we are missing out on one of the greatest stories of this century. Archeologists! Wherefore art yez?

**THE DOCTOR'S SECRET** by Dorothy Louise Dern. Pageant Press, Inc., N. Y., \$2.50

**APPARENTLY** Mrs. Dern received her training in the soap-opera field. She has taken an intrinsically dramatic subject, the creation of human life in the laboratory, and proceeded to treat it from the angle of Portia Facing Life. Unfortunately, unlike her laboratory piece of flesh, her story completely fails to come alive.

— FLOYD C. GALE

**O**N HIS way across the wheel one morning, Dr. Walter Alvarez detoured down to C Level promenade. A few men were standing, as usual, at the view window looking out at the enormous blue-green planet below. They were dressed alike in sheen-gray coveralls, a garment with detachable gauntlets and hood designed to make it convertible into a spacesuit. It was uncomfortable, but regulation: according to the books, a Survey and Propaganda Satellite might find itself under attack at any moment.

Nothing so interesting had happened to SAPS 3107A, orbiting off the seventh planet of a G-type star in Ophiuchus. They had been here for two years and a half, and most of them had not even touched ground yet.

There it was, drifting by out there, blue-green, fat and juicy—an oxygen planet, two-thirds land, mild climate, soil fairly bursting with minerals and organics.

Alvarez felt his mouth watering when he looked at it. He had "wheel fever." They all did. He wanted to get *down* there, to natural gravity and natural ailments.

The last month or so, there had been a feeling in the satellite that a breakthrough was coming. Always coming: it never arrived.

# an eye for a what?

By DAMON KNIGHT

*The Earthmen thought*

*they couldn't hurt*

*a friendly alien*

*if their lives depended on it—*

*their lives did depend on it!*

Illustrated by GAUGHAN





A PLUMP orthotypist named Lola went by and a couple of the men turned with automatic whistles.

"Listen," said Olaf Olsen conspiratorially, with a hand on Alvarez's arm, "that reminds me, did you hear what happened at the big banquet in George's honor yesterday?"

"No," said Alvarez, irritably withdrawing his arm. "I didn't go. Can't stand banquets. Why?"

"Well, the way I got it, the commandant's wife was sitting right across from George —"

Alvarez's interest sharpened. "You mean the gorgon? What did he do?"

"I'm *telling* you. See, it looked like he was watching her all through dinner. Then along comes the dessert — lemon meringue. So old George —"

The shift bell rang. Alvarez started nervously and looked at his thumbwatch. The other men were drifting away. So was Olaf, laughing like a fool.

"You'll die when you hear," he called back. "Boy, do I wish I'd been there myself! So long, Walt."

Alvarez reluctantly went the other way. In B Corridor, somebody called out to him, "Hey, Walt! Hear about the banquet?"

He shook his head. The other man, a baker named Pedro, grinned and waved, disappearing

up the curve of the corridor. Alvarez opened the door of Xenology Section and went in.

During his absence, somebody had put a new chart on the wall. It was ten feet high and there were little rectangles all over it, each connected by lines to other rectangles.

When he first saw it, Alvarez thought it was a new table of organization for the Satellite Service and he winced; but on closer inspection, the chart was *too* complex, and besides, it had a peculiar disorganized appearance. Boxes had been white-rubbed out and other boxes drawn on top of them. Some parts were crowded illegibly together and others were spacious.

The whole thing looked desperately confused and so did Elvis Womrath, who was on a wheeled ladder erasing the entire top righthand corner.

"*N* panga," he said irritably. "That right?"

"Yes," a voice piped unexpectedly. Alvarez looked around, saw nobody. The voice went on, "But he is *R* panga to his cousins and all their *N* pangas or bigger, except when —"

Alvarez leaned over and peered around the desk. There on the carpet was the owner of the voice, a pinkish-white spheroid with various appendages sprouting in all directions, like a floating mine:

"George" the gorgon.

"Oh, it's you," said Alvarez, producing his echo sounder and humidometer. "What's all this nonsense I hear—" He began to prod the gorgon with the test equipment, making his regular morning examination. It was the only bright moment of his day; the infirmary could wait.

"All right," Womrath interrupted, scrubbing furiously. "R panga to cousins—wait a minute now." He turned with a scowl. "Alvarez, I'll be through in a minute. N panga or bigger, except when . . ." He sketched in half a dozen boxes, labeled them and began to draw connecting lines. "Now is *that* right?" he asked George.

"Yes, only now it is wrong panga to *mother's* cousins. Draw again from father's cousins' N pangas to mother's cousins' O pangas or bigger . . . Yes, and now from father's uncles' R pangas to mother's uncles' pangas' cousins—"

WOMRATH'S hand faltered. He stared at the chart; he had drawn such a tangle of lines, he couldn't tell what box connected with which.

"Oh, God," he said hopelessly. He climbed down off the ladder and slapped the stylus into Alvarez's palm. "You go nuts." He thumbed the intercom on the

desk and said, "Chief, I'm going off now. Way off."

"Did you get that chart straightened out?" the intercom demanded.

"No, but—"

"You're on extra duty as of now. Take a pill. Is Alvarez here?"

"Yes," said Womrath resignedly.

"Both of you come in, then. Leave George outside."

"Doctor," the spheroid piped, "are you panga to me?"

"Don't let's get into *that*," said Womrath, twitching, and took Alvarez by the sleeve.

They found the chief of the Xenology Section, Edward H. Dominick, huddled bald and bear-like behind his desk. The cigar in his hand looked chewed.

"Womrath," he said, "when can you give me that chart?"

"I don't know. Never, maybe." When Dominick scowled at him irritably, he shrugged and lit a cigarette.

Dominick swiveled his gaze at Alvarez. "Have you heard about what happened at the banquet in George's honor yesterday?"

"No, I have not," said Alvarez. "Will you be so kind as to tell me, or else shut up about it?"

Dominick rubbed his shaven skull, absorbing the insult. "It was during the dessert. George was sitting opposite Mrs. Carver, in that little jump seat. Just as she

got her fork into the pie—it was lemon meringue—George rolled right up over the table and grabbed the plate away. Mrs. Carver screamed, pulled back—thought she was being attacked, I suppose—and the chair went out from under her. It—was—a—mess.”

Alvarez ended the awed silence. “What did he do with the pie?”

“Ate it,” said Dominick glumly. “Had a perfectly good piece of his own that he didn’t touch.” He popped a lozenge into his mouth.

Alvarez shook his head. “Not typical. His pattern is strictly submissive. I don’t like it.”

“That’s what I told Carver. But he was livid. Shaking. We all sat there until he escorted his wife to her room and came back. Then we had an interrogation. All we could get out of George was, ‘I thought I was panga to her.’”

**A**LVAIREZ shifted impatiently in his chair, reaching automatically for a bunch of grapes from the bowl on the desk. He was a small, spare man and he felt defensive about it. “Now what is all this panga business?” he demanded.

Womrath snorted and began to peel a banana.

“Panga,” said Dominick, “would appear to be some kind of complicated authority-submission relationship that exists among the

gorgons.” Alvarez sat up straighter. “They never mentioned it to us because we never asked. Now it turns out to be crucial.” Dominick sighed. “Fourteen months, just getting a three-man base down on the planet. Seven more to get the elders’ permission to bring a gorgon here experimentally. All according to the book. We picked the biggest and brightest-looking one we could find. That was George. He seemed to be coming along great. And now this.”

“Well, Chief,” said Womrath carefully, “nobody has any more admiration than I have for Mrs. Carver as a consumer—she really puts it away—but it seems to me the question is, is *George* damaged—”

Dominick was shaking his head. “I haven’t told you the rest of it. This panga thing stopped Carver cold, but not for long. He beamed down to the planethead and had Robinson ask the elders, ‘Is George panga to the commander’s wife?’”

Alvarez grinned mirthlessly and clicked his tongue.

Dominick nodded. “Who knows what a question like that may have meant to them? They answered back, in effect, ‘Certainly not,’ and wanted to know the details. Carver *told* them.”

“And?” asked Alvarez.

“They said George was a shock-

ing criminal who should be appropriately punished. Not by them, you understand — by us, because we're the offended parties. Moreover — now this must make sense to their peculiar way of looking at things — if we don't punish George to their satisfaction, *they'll* punish Robinson and his whole crew."

"How?"

"By doing whatever it is we should have done to George — which could be anything."

Womrath pursed his lips to whistle, but no sound came out. He swallowed a mouthful of banana and tried again. Still nothing.

"You get it?" said Dominick with suppressed emotion. They all looked through the open doorway at George, squatting patiently in the other room. "There's no trouble about 'punishment'— we all know what it means; we've read the books. But how do you punish an alien like that? *An eye for a what?*"

"**N**OW let's see if we have this straight," said Dominick, sorting through the papers in his hand. Womrath and Alvarez looked on from either side. George tried to peek, too, but his photoceptors were too short. They were all standing in the outer office, which had been stripped to the bare walls and floor. "One. We know a gorgon changes color according to his emotional state.

When they're contented, they're a kind of rose pink. When they're unhappy, they turn blue."

"He's been pink ever since we've had him on the Satellite," said Womrath, glancing down at the gorgon.

"Except at the banquet," Dominick answered thoughtfully. "I remember he turned bluish just before . . . If we could find out what it was that set him off . . . Well, first things first." He held down another finger. "Two, we don't have any information at all about local systems of reward and punishment. They may cut each other into bits for spitting on the sidewalk, or they may just slap each other's — um, wrists —"

He looked unhappily down at George, whose auricles and photoceptors were all out on stalks.

"— for arson, rape and moperly," Dominick finished. "We don't know. We'll have to play it by ear."

"What does George say about it?" Alvarez asked. "Why don't you ask him?"

"We thought of that," Womrath said glumly. "Asked him what the elders would do to him in a case like this, and he said they'd quibble his infarcts or something."

"A dead end," Dominick added. "It would take us years . . ." He scrubbed his naked scalp with a palm. "Well, number three, we've got all the furniture out of here —

it's going to be damned crowded, with the whole staff working in my office, but never mind . . . Number four, there's his plate with the bread and water. And number five, that door has been fixed so it latches on the outside. Let's give it a dry run."

He led the way to the door; the others followed, including George.

"No, you stay in here," Womrath told George, who stopped, blushing an agreeable pink.

**D**OMINICK closed the door and dropped the improvised latch into its socket. He punched the door button, found it satisfactorily closed. Through the transparent upper pane, they could see George inquisitively watching.

Dominick opened the door again. "Now, George, pay attention. This is a *prison*. You're being *punished*. We're going to keep you in here, with nothing to eat but what's there, until we think you're punished enough. Understand?"

"Yes," George said doubtfully.

"All right," said Dominick, and closed the door.

They all stood watching for a while, and George stood watching them back, but nothing else happened.

"Let's go into my office and wait," said Dominick, with a sigh. "Can't expect miracles all at once."

They trooped down the corridor to the adjoining room and ate peanuts for a while.

"He's a sociable creature," Womrath said hopefully. "He'll get lonesome after a while."

"And hungry," Alvarez said. "He never turns down a meal."

Half an hour later, when they looked in, George was thoughtfully chewing up the carpet.

"No, no, no, no, George," said Dominick, bursting in on him. "You're not supposed to eat anything except what we give you. This is a *prison*."

"Good carpet," said George, hurt.

"I don't care if it is. You don't eat it, understand?"

"Okay," said George cheerfully. His color was an honest rose pink.

Four hours later, when Alvarez went off shift, George had settled down in a corner and pulled in all his appendages. He was asleep. If anything, he looked pinker than ever.

When Alvarez came on shift again, there was no doubt about it. George was sitting in the middle of the room, photoceptors out and waving rhythmically; his color was a glowing pink, the pink of a rose pearl. Dominick kept him in there for another day, just to make sure; George seemed to lose a little weight on the austere diet, but glowed a steady pink. He liked it.

KELLY, the games instructor, tried to keep up a good front, but he had the worst case of wheel fever on SAPS 3107A. It had got so that looking out at that fat, blue-green planet, swimming there so close, was more than he could bear.

Kelly was a big man, an outdoorsman by instinct; he longed for natural air in his lungs and turf under his feet. To compensate, he strode faster, shouted louder, got redder of face and bulgier of eye, bristled more fiercely. To quiet an occasional trembling of his hands, he munched sedative pills. He had dreams of falling, with which he bored the ship's Mother Hubbard and the Church of Marx padre by turns.

"Is that it?" he asked now, disapprovingly. He had never seen the gorgon before; Semantics, Medical and Xenology Sections had been keeping the alien pretty much to themselves.

Dominick prodded the pinkish sphere with his toe. "Wake up, George."

After a moment, the gorgon's skin became lumpy at half a dozen points. The lumps grew slowly into long, segmented stems. Some of these expanded at the tips into "feet" and "hands." Others flowered into the intricate

patterns of auricles and photoceptors—and one speech-organ, which looked like a small trumpet.

"Hello," said George sunnily.

"He can pull them back in any time?" Kelly asked, rubbing his chin.

"Yes. Show him, George."

The feathery stalks obligingly became blank-tipped, then rapidly shrank, segment by segment. In less than two seconds, George was a smooth sphere again.

"Well, that makes for a little problem here," said Kelly. "You see what I mean? If you can't get a grip on him, how are you going to *punish* him like you say?"

"We've tried everything we could think of," said Dominick. "We locked him up, kept him on short rations, didn't talk to him... He doesn't draw any pay, of course, so we can't fine him."

"Or downgrade him on the promotion lists, either," said Womrath gloomily.

"No. And it's a little late to use the Pavlov-Morganstern treatments we all had when we were children. We can't prevent a crime he's already committed. So our thought was, since you're the games instructor—"

"We thought," Womrath said diplomatically, "you might have noticed something that might be useful. You know, *rough-housing* and so on."

Kelly thought this over. "Well,

there's low blows," he said, "but I mean, hell—" He gestured futilely at George, who had just decided to put his auricles out again. "What would you—?"

"No, that's out of the question," Dominick said heavily. "Well, I'm sorry, Kelly. It was nice of you to help out."

"Wait a minute," said Kelly. "I got something coming to me, maybe." He nibbled a thumbnail, staring down at the gorgon. "How would this be? I was thinking—sometimes the boys in the pool, they get kind of frisky; they take to ducking each other. Under the water. Now what I was thinking, he breathes air, doesn't he? You know what I mean?"

**D**OMINICK and Alvarez looked at each other. "It sounds possible," said Dominick.

"Out of the question," Alvarez objected. "We don't know what his tolerance is. Suppose Kelly should damage him severely or even—"

"Oh," said Dominick. "Yes, you're right. We couldn't take a chance."

"I've been a games instructor for seventy-three years—two rejuvenations—" Kelly began, bristling.

"It isn't that, Kelly," said Womrath hastily. "George isn't human, so how do we know how he'd react to a ducking?"

"On the other hand," Dominick said, "gorgons *do* turn blue when they're not happy—we have Robinson's assurance for that. It seems to me George wouldn't be happy when smothering; that would be the whole point, wouldn't it? Dr. Alvarez would supervise closely, of course. Really, Alvarez, I don't see why not. Kelly, if you'll tell us what time would be most convenient for you—"

"Well," said Kelly, looking at his thumbwatch, "hell, the pool is empty now. It's ladies' day, but all the girls are down in Section Seven, hanging around Mrs. Carver. I hear she's still hysterical."

Struck by a thought, Alvarez was bending over to speak to the gorgon. "George, you breathe by spiracles, is that correct? Those little tubes all over your skin?"

"Yes," said George.

"Well, do they work under water?"

"No."

Dominick and Kelly were listening with interest.

"If we held you under water, would it hurt you?"

George flickered uncertainly, from rose to pale magenta. "Don't know. Never tried."

The three men leaned closer. "Well, George," said Alvarez, tensely, "would that be a *punishment*?"

George flickered violently. "Yes. No. Maybe. Don't know."

They straightened again, disappointed. Dominick sighed gustily. "He always gives us those mixed-up answers. *I don't know. Let's try it. What else can we do?*"

KELLY found himself paired off with George, following Dominick and Dr. Alvarez, and preceding Womrath and an orderly named Josling who was wheeling one of the dispensary pulmotors. The up-curving corridors were deserted. Kelly lagged a little, adjusting his pace to George's waddling steps. After a moment, he was surprised to feel something small and soft grip his fingers. He looked down; George the gorgon had put one seven-fingered "hand" into his. The gorgon's flowerlike photoceptors were turned trustfully upward.

Kelly was taken by surprise. No children were allowed on the Satellite, but Kelly had been the father of eight in a previous rejuvenation. The confiding touch stirred old memories.

"You'll be all right," said Kelly gruffly. "You just come along with me."

The pool, as he had predicted, was empty. Ripples reflected faint threads of light up and down along the walls.

"The shallow end would be better," said Kelly. His voice was hollow and echoed back flatly. Pausing to peel off his coverall,

he led George carefully down the steps into the pool. Half submerged, George floated. Kelly drew him gently out into deeper water.

Dominick and the others arranged themselves along the brink in interested attitudes.

Kelly cleared his throat. "The way it generally happens, one of the boys will grab ahold of another one, like this—" He put his hands on the smooth floating globe, and hesitated.

"Go ahead, Kelly," called Dominick. "Remember, you have a direct order to do this."

"Sure," said Kelly. He turned to the gorgon. "Hold your breath now!" He pressed downward. The gorgon seemed lighter than he had expected, like an inflated ball; it was hard to force it under.

Kelly pushed harder. George went under briefly and slipped out of Kelly's hands, bobbing to the surface. The gorgon's speaking trumpet cleared itself of water with a *phonk* and said, "Nice. Do again, Kelly."

Kelly glanced over at Dominick, who said, "Yes. Again." Dr. Alvarez stroked his thin beard and said nothing.

Kelly took a deep sympathetic breath and shoved the gorgon under. A few bubbles came to the surface. George's speaking trumpet broke water, but made no sound. Down below, Kelly could



see his own pale hands gripping the gorgon's body; the water made them look bloodless; but not George—he was a clear, unblemished pink.

**T**HERE was a discouraged silence when Kelly brought him back up.

"Listen," said Womrath, "I've got another idea. George, can you breathe through that speaking trumpet, too?"

"Yes," said George cheerfully.

Everybody brightened perceptibly. Josling polished his pulmotor with a rag.

"Go ahead, Kelly," said Dominick. "And this time, you hold him under."

George went down for the third time. The bubbles swirled upward. The gorgon's speaking trumpet swayed toward the surface, but Kelly leaned farther over, blocking it with his forearm. After a moment, all of George's appendages began to contract. Kelly craned his neck downward anxiously. Was a hint of blue beginning to show?

"Keep him down," called Alvarez sharply.

George was a blank sphere again. Then one or two of the limbs began to reappear, but they looked different somehow.

"Now?" asked Kelly.

"Give him a second more," said Dominick, leaning over precari-



ously. "It seems to me—"

Kelly's back muscles were knotted with tension. He did not like the way George's new limbs seemed to be flattening out, trailing limpy. It was as if something had gone wrong in the works.

"I'm bringing him up," he said hoarsely.

To Kelly's horror, when he lifted his hands, George stayed where he was. Kelly made a grab



for him, but the gorgon slipped out from under his fingers. The new limbs stiffened and sculled vigorously; George darted away, deep under the water.

Leaning, open-mouthed, Dominick slipped and went into the pool with a majestic splash. He floundered and rose up, a moment later, streaming with water like a sea lion. Kelly, wading anxiously toward him, stopped when

he saw that Dominick was safe. Both men looked down. Between them and around them swam George, darting and drifting by turns, as much at home in the pool as a speckled trout.

"Fins!" said Dominick, slack-jawed. "And gills!"

**I**T MAY as well be said that Dr. Walter Alvarez was a misanthrope. He did not like people;

he liked diseases. Down there on Planet Seven, once the trade mission was established, he could confidently expect enough new and startling ailments to keep him happy for years.

Up here, all he got were sprained ankles, psychosomatic colds, hives and indigestion. There was one cook's helper named Samuels who kept coming back every Wednesday with the same boil on the back of his neck. It got so that in spite of himself, Alvarez spent the whole week dreading Wednesday. When he saw Samuels' earnest face coming through the door, something seemed to wind itself a little tighter inside him.

Some day, when Samuels opened his mouth to say, "Hey, Doc—" Samuels always called him "Doc"—the something inside him was going to break with a sound like a banjo string. What would happen then, Dr. Alvarez was unable to imagine.

When the gorgon had first been brought up to the Satellite, there had been two or three delightful little fungus infections, then nothing. A great disappointment. Alvarez had isolated and cultured almost a hundred microorganisms found in smears he had taken from George, but they were all non-viable in human tissue. The viable bacteria, viruses, parasites that always turned up on a life-

infested planet were evidently lurking in some organism other than the gorgons. They swam, at night, across the optical field of Dr. Alvarez's dreaming mind—rod-shaped ones, lens-shaped ones, wriggly ones, leggy ones and ones with teeth.

One morning, Dr. Alvarez awoke with a desperate resolve. It was a Tuesday. He went directly to the infirmary, relieved Nurse Trumble who was on duty, and, opening a locked cabinet, filled a hypodermic from an ampule of clear straw-colored fluid. The trade name of this substance was *bets-off*; it was a counter-inhibitant which stunned the censor areas of the forebrain chiefly affected by the Pavlov-Morgestern treatments. (By an odd coincidence, the patentee was a Dr. Jekyll.) Alvarez injected two c.c.s of it directly into the median basilar vein and sat down to wait.

**A**FTER a few minutes, his perpetual bad humor began to lift. He felt a pleasant ebullience; the colors of things around him seemed brighter and clearer.

"Hal" said Alvarez.

He got up and went to his little refrigerator, where, after some search, he found half a dozen of the cultures he had made of microorganisms taken from gorgon smears. They were quiescent, of course—deep-frozen. Alvarez

warmed them cautiously and added nutrients. All morning, while the usual succession of minor complaints paraded through the infirmary, the cultures grew and multiplied. Alvarez was jovial with his patients; he cracked a joke or two and handed out harmless pills all around.

By noon, four of the cultures were flourishing. Alvarez carefully concentrated them into one and loaded another hypodermic with the resulting brew. To his liberated intelligence, the matter was clear: No organism, man or pig or gorgon, was altogether immune to the microbes it normally carried in its body. Upset the balance by injecting massive colonies of any one of them and you were going to have a sick gorgon — i.e., Alvarez thought, a punished gorgon.

The treatment might also kill the patient, but Alvarez light-heartedly dismissed this argument as a quibble. (Or quabble?) Armed with his hypo, he went forth looking for George.

He found him in the small assembly room, together with Dominick, Womrath and a mechanic named Bob Ritner. They were all standing around a curious instrument, or object of art, built out of bar aluminum.

"It's a rack," Ritner explained proudly. "I saw a picture of it once in a kids' book."

The main feature of the "rack" was a long, narrow table with a windlass at one end. It looked like a crude device for stretching something.

"We thought the time had come for stern measures," Dominick said, mopping his head.

"In the olden days," Ritner put in, "they used these on prisoners who wouldn't talk."

"I talk," George pleasantly offered.

"It's another punishment, George," Dominick explained kindly. "Well, Alvarez, before we go ahead, I suppose you want to examine your patient."

"Yes, just so, ha-ha!" said Alvarez.

**H**E KNELT down and peered keenly at George, who swiveled his photoceptors interestedly around to stare back. The doctor prodded George's hide; it was firm and resilient. The gorgon's color was a clear pink and the intricate folds of his auricles seemed crisp and alert.

Alvarez took a hand scale from his kit; it was pre-set for A Level gravity. "Climb up here, George."

Obediently, the gorgon settled himself on the pan of the scale while Alvarez held it up.

"Hm," said Alvarez. "He's lost a good deal of weight."

"He has?" asked Dominick hopefully.

"But he seems to be in unusually good condition — better than a week ago, I would say. Perhaps just a little sugar solution to pep him up—" Alvarez withdrew the hypo from his kit, aimed it at George's smooth skin and pressed the trigger.

Dominick sighed. "Well, I suppose we might as well go ahead. George, just hop up there and let Ritner tie those straps onto you."

George trustingly climbed onto the table. Ritner buckled straps around four of his limbs and then began to tighten the cylinder.

"Not too much," said George anxiously.

"I'll be careful," Ritner assured him. He kept on winding the cylinder up. "How does that feel?"

George's "arms" and "legs" were half again their usual length and still stretching.

"Tickles," giggled George.

Ritner went on turning the handle. Sims coughed nervously and was shushed. George's limbs kept on getting longer; then his body started to lengthen visibly.

"Are you all right, George?" Dominick asked.

"Very fine."

Ritner gave the handle a last despairing twist. George's elongated body stretched all the way in comfort from one end of the rack to the other. There was no place else for him to go.

"Nice," said George. "Do again."

He was glowing a happy pink.

Ritner frustratedly kicked his machine. Alvarez snorted and went away. In the corridor, unseen, he jumped up and clicked his heels together. He was having a wonderful time; his only regret was that it was not tomorrow. Come to think of it, why wait till Wednesday?

**C**OMMANDANT Charles Watson Carver, S. S., had been trained to make quick and courageous decisions. Once you began to entertain a doubt of your own rightness, you would hesitate too much, begin to second-guess yourself, fall prey to worry and anxiety, and end up without any power of decision at all.

The trouble was, you could never be right all the time. Following the book to the letter, or improvising brilliantly, either way you were bound to make mistakes. The thing was to cross them off and go ahead just the same.

Carver firmed his chin and straightened his back, looking down at the gorgon. It was sick, all right, there was no question about that. The thing's limbs drooped and weaved slightly, dizzily. Its hide was dry and hot to the touch.

"How long has he been like this?" Carver demanded, hesitating only slightly over the "he."

Aliens were "it" to him and always had been, but it didn't do to let anybody know that.

"Twenty minutes, more or less," said Dr. Nasalroad. "I just got here myself—" he stifled a yawn — "about ten or fifteen minutes ago."

"What are you doing here, anyway?" Carver asked him. "It's Alvarez's shift."

Nasalroad looked embarrassed. "I know. Alvarez is in the hospital as a patient. He assaulted a cook's helper named Samuels—poured soup over his head. He was shouting something about boiling the boil on Samuels' neck. We had to put him under sedation. It took three of us."

CARVER set his jaw hard. "Nasalroad, what is happening on this wheel, anyhow? First this thing attacks my wife. Then Alvarez—" He glared down at George. "Can you pull him out of this, whatever it is?"

Nasalroad looked surprised. "That would be a large order. We don't know any gorgon medicine. I was assuming you'd want to beam down and ask *them*."

That was reasonable, of course. The only hitch was, as usual, a matter of interpretation. Was this something they had negligently allowed to happen to an important alien representative, or was it the necessary and proper pun-

ishment they had all been looking for?

He asked Nasalroad, "What color would you say he is now? Not pink, certainly."

"No-o. But not blue, either. I'd call it a kind of violet."

"Hm. Well, anyhow, he's got smaller than he was, isn't that right? *Conspicuously* smaller."

Nasalroad admitted it.

Carver made his decision. "Do the best you can," he said to Nasalroad. He lifted his wristcom, said briskly, "Have you got a line-of-sight to the planethead?"

"Yes, sir," the operator answered.

"All right, get me Rubinson."

A few seconds passed. "Planethead."

"Rubinson, this is Carver. Tell the elders we've got a pretty unhappy gorgon here. We're not sure just what did it—might have been one of a lot of things—but he's lost a good deal of weight, and his color—" Carver hesitated — "it's bluish. Definitely *bluish*. Got that?"

"Yes, Chief. Thank goodness! I'll pass the message along right away and call you back."

"Right." Carver closed the wristcom with an assertive snap. The gorgon, when he glanced down at it, looked sicker than ever, but no matter. What happened to the gorgon was its lookout; Carver was doing his duty.

ALVAREZ awoke with a horrible headache and a sense of guilt. He was not in his own cubicle, but in one of the hospital bunks, dressed in a regulation set of hospital pajamas (with removable hood and gloves, capable of being converted into a spacesuit). He could just see the wall clock at the far end of the room. It was twenty-three hours—well into his shift.

Alvarez scuttled out of bed, groaning, and looked at the chart beside it. *Mania, delusions. Sedation. Signed, Nasalroad.*

Delusions: yes, he was having one now. He imagined he could remember heaving up a big tu-reen of mock-turtle soup over Samuels' startled face—splash, a smoking green torrent.

Good heavens! If that was *real*—Samuels!

And the gorgon!

Groaning and lurching, Alvarez darted out of the room, past the orderly, Munch, who was sitting with a story viewer on his lap and couldn't get up fast enough. "Dr. Alvarez! Dr. Nasalroad said—"

"Never mind Nasalroad," Alvarez snapped, pawing in the refrigerator. He remembered those cultures being right back *here*; but now they were gone.

"—not to let you up until you

acted normal again. Uh, how do you feel, Doctor?"

"I feel fine! What difference does that make? How is *he*?"

Munch looked puzzled and apprehensive. "Samuels? Just superficial burns. We put him to bed in his own cubby, because—"

"Not Samuels!" Alvarez grabbed Munch by the front of his suit. "The gorgon!"

"Oh, well, he's been sick, too. How did you know, though, Doctor? You were snoring when it happened. Listen, let go my suit; you're making me nervous."

"Where?" Alvarez demanded, thrusting his scrawny face close to the other's.

"Where what? Oh, you mean the *gorgon*? Up in the little assembly room, the last I—"

Alvarez was gone, out the door and down the corridor like a small, bearded fireball. He found an anxious crowd assembled—Commandant and Mrs. Carver, Dominick and his staff, Urban and two assistants from Semantics, orderlies, porters, and Dr. Nasalroad. Nasalroad had the gaunt and bright-eyed appearance of a man who has been on wake-up pills too long. He started when he saw Alvarez.

"What's up?" Alvarez demanded, grabbing his sleeve. "Where's the gorgon? What—"

"Be quiet," said Nasalroad. "George is over in that corner be-

hind Carver. We're waiting for the delegation from planetside. Robinson said they were coming up, three of them with some kind of a box."

THE loudspeaker said suddenly, "I have the tender locked on. Contact. Contact is made. The lock is opening; get ready, here they come."

Alvarez couldn't see past Carver's bulk. He tried to get away, but Nasalroad stopped him. "I want to see," he said irritably.

"Listen," Nasalroad said. "I know what you did. I checked the bets-off pills and those cultures against inventory. The gorgon seems to be recovering nicely, no thanks to you. Now has the stuff worn off you or not? Because if not—"

A rustle went over the group. Alvarez and Nasalroad turned in time to see the door opening. Two vigorous-looking gorgons waddled through; they were carrying an enameled metal box between them.

"Foop!" said the first one experimentally. "Where is gorgon George?"

"I'm all right," Alvarez muttered. "If I wasn't, I'd have done something uncivilized to you by now, wouldn't I?"

"I guess so," said Nasalroad. They elbowed closer as the group shifted, making a space around

the three gorgons. Peering, on tiptoe, Alvarez could see George standing shakily beside the other two. "He looks terrible. Those are big ones, those other two, aren't they?"

"Not as big as George was when we got him," Nasalroad muttered. "Walt, if it turns out you've ruined the whole thing, I'll take a dose of bets-off myself and—"

"Listen!" snarled Alvarez.

One of the gorgons was explaining, "This is panga box. What you call? You know panga?"

"Well, uh, yes and no," said Dominick uncomfortably. "But what about the punishment? We understood—"

"Punishment later. You, George, go in box."

Obediently, George waddled over and squatted beside the mouth of the box. He bobbed uncertainly; he looked for all the world like a large woman trying to get into a small sports 'copter. There was a minor outbreak of nervous laughter, quickly suppressed.

George leaned, retracting most of his upper appendages. His round body began to be compressed into a squarish shape, wedging itself into the box.

The other gorgons watched with an air of tension, photoceptors rigidly extended. A hush fell. Among the humans present,



there was a general air of Why-are-we-all-whispering?

George wriggled and oozed farther into the box. Momentarily, he stuck. He flickered blue, then pink. His "feet," almost retracted, scrabbled feebly at the bottom of the box.

Then he was in.

ONE of the other gorgons solemnly closed the lid on George and fastened it to make sure, then opened it again and

helped him out. All three gorgons began to make rhythmic swaying motions with their "arms" and other appendages. George, Alvarez thought, looked smug. He felt a sudden premonitory pang. What had he done?

"What's it all about?" Nasal-road demanded. "Are they measuring him for a coffin or—"

Dominick, overhearing, turned and said, "I don't think so. Now this is interesting. You remember they said a panga box. What I'm



afraid of is that they may have a standard of size. You see what I mean? They could be measuring George to see if he falls below the minimum standard of — uh — panga relations."

"Oh, heavens," said another voice. It was Urban of Semantics, who had been neglected of late; they hadn't needed him since George learned English. He was peering over Dominick's shoulder, looking dumbfounded. He said, "But don't you know the word

we've been translating 'elders' really means 'smallest ones'? Good heavens —"

"I don't see —" Dominick began, but the commandant's voice drowned him out.

"Quiet! Quiet, please!" Carver was trumpeting. He went on, "Our friends from Seven have an announcement to make. Now, then."

To everyone's surprise, it was George who spoke, in the lisping accents of the gorgon language. No human present understood a word of it except Urban, who turned pale and began stammering inaudibly to himself.

One of the gorgons began to speak when George stopped: "Most elder person, known to you by name George, wishes me to thank you all for kindness done him when he was humble youth."

"Youth," muttered Urban. "But it really means 'ungainly one'— or 'fat boy.' Oh, my heavens!"

"Now that he has become elder, it will be his most pleasure to repay all kindness in agreeable legislative manner."

"What does that mean?" Alvarez queried aggrievedly. "Why can't he talk for himself, anyway?"

"It would be beneath his dignity now," said Nasalroad. "Hush!"

"— If," said the gorgon, "you will succeed in giving elder person, known by name George, proper punishment as aforesaid."



"THIS meeting will come to order!" said Carver, banging on the table. George and the other two gorgons were sitting opposite him, with the centerpiece of nasturtiums and ferns between them. Grouped around Carver were Dominick, Urban, Womrath, Alvarez, Nasalroad, Kelly and Ritner.

"Now this is the situation," Carver said aggressively. "This gorgon turns out to be a member of their ruling council. I don't understand why, but forget that now—the point is he's friendly disposed toward us, so we've succeeded in this mission *if* we can find that proper punishment. Otherwise we're in the soup. Suggestions."

Dominick craned his bald head toward Alvarez across the table. "Doctor, I had a thought. Would you say—is there anything peculiar about the gorgon's body constitution as compared, say, to ours?"

"Certainly," said Alvarez dourly. "Any number of things. You name it, they —"

Giving them a dirty look, Carver nodded to Ritner. "Yes?"

"Well, I was thinking. I know the rack was a washout, but there was another thing they used to use called the Iron Virgin. It had a door, like, with spikes on it —"

"What I had in mind," Dominick said, "is there anything that

would tend to limit their body size — any danger or disadvantage in growing large?"

Alvarez frowned and looked at Nasalroad, who hitched his chair closer.

"The pressure?" said Nasalroad tentatively. They rubbed their chins and looked at each other with professional glints in their eyes.

"What *about* the pressure?" Dominick prompted eagerly.

"How long would it take you to build a thing like that?" Carver was asking Ritner.

"Well — ten, eleven hours."

"Too long. That's out. Next!"

"They're actually a single cell — all colloidal fluid, at a considerable osmotic pressure. The bigger they get, the more pressure it takes to keep that shape. If they got too big, I rather imagine —"

Alvarez snapped his fingers, awed. "They'd burst!"

Carver turned with an indignant glare. "Gentlemen, if I could get a little cooperation out of you, instead of this continual distraction — All right, Womrath?"

"Sir, I was just wondering, suppose if we let him turn into a fish, the way he did before in the pool — but then we'd net him and take him out of the water fast. That way, maybe —"

"It wouldn't work," said Kelly. "He changed back in about a second, the other time."

**N**OBODY was paying any attention to Kelly. One of the big gorgons, who had been staring fixedly at the flowers in the middle of the table, had suddenly grabbed a handful and was stuffing them into his mouth. George said something shrill in gorgon talk and snatched the flowers away again. The other gorgon looked abashed, but flushed pink.

George, on the other hand, was distinctly blue.

His "hand," clutching the mangled flowers, hesitated. Slowly, as if with an effort, he put them back in the bowl.

The other two gorgons twined their "arms" around him. After a moment, George looked more his old self, but a hint of blue remained.

"What is it?" asked Carver alertly. "Did we do something, finally?"

"Did you turn blue because we punished you, George?" Womrath questioned.

"No," said George unexpectedly. "Hard for me to be elder." He added a few words in his own language to the other gorgons and their "arms" twined around him again. "Before, they panga to me," he added.

"Then that's why he took the pie away from the commandant's wife!" said Dominick, smiting himself on the forehead.

"Of course. They —"

"What's that? What's that?" Carver turned, bristling.

"Why, this explains that pie business," said Dominick. "He felt protective toward your wife, you see. That's what 'panga' means. They none of them have much control over their own appetites, so they guard each other. As they grow older and get more self-control, they're expected to get smaller, not bigger. George felt confused about his panga relationships to us, but in your wife's case, he was positive one more mouthful would make her explode —"

Carver was red to the ears. "Nonsense!" he shouted. "Dominick, you're being insulting, insubordinate and unpatriotic!"

George, looking on interestedly, piped a few words in the gorgon language. One of the other gorgons immediately spoke up: "Elder person says you with smooth head are a smart man. He says the other big one who talks too much is wrong."

**C**ARVER'S jaws worked. He looked at the gorgons, then around the table. No one said anything.

Carver set his jaw heroically. "Well, gentlemen, we certainly tried, but —"

"Wait a minute!" said Alvarez. Somewhere in his narrow skull, a great light had dawned. "George,

am I panga to you?"

George's auricles waved tensely. "Yes. You very small man."

"Good." Alvarez dry-washed his bony hands. "And you still have to be punished for that mistake you made at the banquet?"

George's speaking tube buzzed unhappily, "Yes."

"All right," said Alvarez. Everybody was looking at him with expressions varying from puzzlement to alarm. Alvarez took a deep breath. "Then here are my orders to you. *Do as you please!*"

There was a hiss of indrawn breath from Urban. Most of the others looked at Alvarez as if he had grown snakes for hair.

"Doctor," said Carver, "have you gone off your —"

The chorus of gasps stopped him. Up on the table, flushing blue and bright pink by turns like a skysign, George was gobbling up the flowers in the centerpiece. Next he ate the bowl. One of his flailing limbs raked in the scratchpad Urban had been doodling on. He ate that.

Next moment, he was leaping to the floor, making Ritner duck wildly as he passed. Part of Dominick's detachable hood went with him, disappearing with hoarse munching sounds. With a gulp, George swallowed it and began on the carpet. He was eating greedily, frantically. The other two gorgons hovered around him

with shrill gorgon cries, but he ate on, oblivious. Now he was bright blue and bulging, but still he ate.

"Stop it!" shouted Alvarez. "George, stop that!"

George rocked to a halt. Gradually his blueness faded. The other gorgons were prodding and patting him anxiously. George looked all right, but it was obvious as he stood there that he would never fit into the panga box again.

He was bigger than the other two.

"Alvarez," said Carver wildly, "why did you —"

"He was going to burst," said Alvarez, twitching with excitement. "Couldn't you tell? Another mouthful or two —"

Carver recovered himself. He straightened his coverall and thrust out his chin. "At any rate, he was certainly blue that time. You all saw it — isn't that right?" He looked around triumphantly. "So, unless I'm very much mistaken —"

ONE of the two attendant gorgons raised his photoceptors. It was hard to tell which was George, now, except that his color was still a little lavender. The other gorgon spoke two brief sentences in his own language and then all three of them waddled off together toward the exit.

"What was that? What did he say?" demanded Carver.

URBAN cleared his throat; he had turned pale again. "He said get the tender ready to take them back home."

"The tender is there," said Carver indignantly. "They can go back any time they want. But what did he say about the punishment?"

Urban cleared his throat again, looking bemused. "They say the punishment is good. More severe than any they ever thought of in twenty thousand years. They say they won't have to punish Rubinson and the others now, because you have done all the punishment necessary."

"Well?" challenged Carver. "Why are you looking that way? What's the hitch? Are they going to refuse to enter the Union, in spite of all this?"

"No," said Urban. "They say we are all panga to them now. They'll do as we say — let us land and build the distribution centers, start them consuming in massive quantity."

"But that'll destroy them!" someone interjected in a horrified tone.

"That's right," said Urban.

Carver sighed. He had been in

the SAPS service most of his life and was proud of his record. He played it as a game; the new, virgin planets were the prizes and he kept score with the row of tiny iridium buttons on his breast pocket. He said into his wrist-com, "Let me know when Rubinson and his crew are on the way up."

There was a long wait. The silence grew oppressive. At length, the wall screen lighted with a view of Planet Seven, gilded along one cusp, blue-green and mysterious in the shadow. A silver spark was floating up out of the night side.

"Here they come now," said the voice.

Carver sighed again. "When they make contact, secure the tender and then signal for acceleration stations. We're leaving Seven. Tell Mr. Fruman to set a first approximation for our next star of call."

Alvarez, twitching and frowning, clutched at the front of his coverall. "You're letting them go? Not landing on Seven — after all this work?"

Carver was staring into the view plate. "Some beings," he said slowly and unwillingly, "are not meant to be consumers."

— DAMON KNIGHT





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